

*United States Marine Corps*

*Command and Staff College*

*Marine Corps University*

*2076 South Street*

*Marine Corps Combat Development Command*

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**TITLE:** Joint Combined Arms Maneuver in the Megacity – Win in Chaos

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**AUTHOR:** Major Geoffrey B. Lynch III

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Mentor and Oral Defense Committee Member: Dr. Benjamin M. Jensen

Approved: \_\_\_\_\_

Date: 20 April 15

Oral Defense Committee Member: Commander Russell Evans

Approved: \_\_\_\_\_

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## Executive Summary

**Title:** Joint Combined Arms Maneuver in the Megacity – Win in Chaos

**Author:** Major Geoffrey B. Lynch, United States Army

**Thesis:** The Army aligns general purpose and special operations forces into a *multi-purpose force* [Means], to integrate with joint forces to create multiple dilemmas for its adversaries to ultimately defeat them, gain a position of relative advantage, or create leverage by influencing multiple points of manipulation simultaneously [Way]. The *multi-purpose force* conducts JCAM in a megacity to “achieve access across all domains, land, maritime, air, space, and cyberspace to strike the enemy at an unknown time or location and create multiple dilemmas.”<sup>i</sup> The [Ends] is that the *multi-purpose force* wins in complex urban environments.

**Discussion:** The percentage of the global population living in urban areas will increase to sixty percent by 2030. Adversaries will increasingly operate from urban locales to level U.S. military overmatch and intermingle in the human domain because war is fundamentally about people. State and non-state actors will exploit ungoverned urban spaces and these areas will become safe havens and support bases for terrorists, insurgents, or criminal organizations. Because complex urban environments degrade U.S. advantages in targeting and long-range precision weapons, future operations in these environments will require adaptive land forces, capable of operating in complex and chaotic environments. This paper examines the problematic features of megacities or *complex urban environments* that distinguish them from *normal* urban areas such as, scale, connectedness, flow, density, and context.<sup>ii</sup> To gain fidelity in framing the problem, this paper uses three case studies conducted on the Israeli-Hezbollah War, French operations in Mali, and the Battle of Kismayo, Somalia. Finally, this paper explains why current Army doctrine, organizational structure, and training falls short in preparing the force for operations in complex urban environments and proposes changes to address each of these areas.

**Conclusion:** To Win in a Complex World (like a megacity) as described in *The U.S. Army Operating Concept 2014* (AOC), the Army must adapt its current doctrine, training, and organizational structure relevant to the time. This concept proposes the application of a *multi-purpose force* which combines the capabilities of general purpose forces and Special Forces and specializes in Joint Combined Arms Maneuver (JCAM) to create multiple dilemmas and defeat future adversaries in complex urban environments.<sup>iii</sup>

## DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

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## *Preface*

As the nation is winding down the longest war in its history and dealing with the realities of a shrinking budget, there is great debate on how the Army should operate in the future and how to best use its precious resources. There is a continuing divide between the Budget Control Act's arbitrary funding mechanism and emerging geopolitical realities confronting the U.S. across Europe, the Middle East, Africa and the Pacific, along with the growing threats to the homeland. In response to these challenges, the Army developed a new Operating Concept, "Win in a Complex World." The foundation of this concept is the ability of the Army to conduct Joint Combined Arms Maneuver to create multiple dilemmas for our adversaries, while giving commanders multiple options and synchronizing and integrating effects from multiple domains onto and from land. This new operating concept, along with the tremendous opportunity to tackle the megacity problem as a member of the Marine Corps Command and Staff College's *Advanced Studies Program* are what inspired me to research and write on this subject. Although this paper is only scratching the surface of an extremely complex military problem, I hope it will contribute to the dialogue and increase our understanding on how we will fight in complex urban environments in the future.

While researching and writing this paper, I received guidance and support from a variety of professionals at Marine Corps University, Marine Corps Command and Staff College. My Faculty Advisors, Lieutenant Colonel Winston Gould, United States Air Force, and Dr. James Joyner provided superb instruction, guidance, and mentorship throughout the academic year. I want to thank the Leadership Communications Skills Center (LCSC), Dr. Linda Di Desidero, Ms. Andrea Hamlen, and Mrs. Stase Wells for proof reading and assisting me in my writing throughout the year. I would like to thank and acknowledge the Advanced Studies Program Professors, Dr. Jonathan Phillips, Dr. Eric Shibuya, and Commander Russell Evans, who

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## Table of Contents

	Page
EXECUTIVE SUMMARY .....	ii
DISCLAIMER .....	iii
PREFACE .....	iv-v
INTRODUCTION .....	2
CASE STUDIES	
Intro .....	3
Israeli – Hezbollah War .....	4
Battle of Kismayo .....	8
Finding .....	10
MILITARY CONCEPT	
Purpose.....	11
Time Horizon, Assumptions, and Risks .....	12
Description of Military Problem.....	13
Synopsis of Central Ideas.....	14
Operational SERVAL – French Operations in Mali.....	15
Application and Integration of Military Functions .....	19
Necessary Capabilities .....	22
Spatial and Temporal Dimensions .....	24
CONCLUSION.....	25
BIBLIOGRAPHY	

## I. Introduction

Global urbanization is daunting for the United States, understanding that military operations will occur in a megacity sometime in the near future. Megacities are defined by the United Nations (U.N.) as urban areas where the population exceeds 10 million.<sup>4</sup> Today, there are 23 megacities recognized globally but current data suggests there could be as many as 37 by 2025 according to the U.N.<sup>1</sup> This number only increases through time as the upward trend continues as expected.<sup>5</sup> More than just the immense population densities, megacities have many other unique characteristics that distinguish them from smaller urban areas.

Army and Joint doctrines for *Urban Operations* (UO) while good starting points, are based on several false assumptions such as, land forces can isolate an urban area, or control an urban area externally and operate freely from the periphery.<sup>6</sup> These assumptions fail to account for the highly connected human networks, access to mass media platforms, rapid mobilization or *swarm* capabilities, and the sprawling and complex physical terrain.<sup>7</sup> To Win in a Complex World (like a megacity) as described in *The U.S. Army Operating Concept 2014* (AOC), the Army must adapt its current doctrine, training, and organizational structure relevant to the time. This concept proposes the application of a *multi-purpose force* which specializes in Joint Combined Arms Maneuver (JCAM) to create multiple dilemmas for future adversaries in complex urban environments.<sup>8</sup>

## II. Case Studies

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<sup>1</sup> For the purpose of this concept, the terms *megacity* and *complex urban environments* are interchangeable. Some complex urban environments do not meet the 10 million population criteria for a megacity as defined by the U.N., but share the same complexities of megacities. The Gaza Strip or Mogadishu are examples of complex urban environments that do not meet the U.N. criteria to be classified as a megacity

To gain fidelity and establish the logic to make specific recommendations on changes to current Army doctrine and ultimately contribute to a larger military concept, case studies were conducted on the Israeli-Hezbollah War in 2006, French operations in Mali in 2013, and the Battle of Kismayo in 2008. Although these conflicts did not occur in a megacity as defined by the U.N., parts of each campaign were waged in complex urban environments that resemble a megacity and qualify them for consideration and analysis. Each conflict was analyzed based on the following three categories: 1) doctrine; 2) training; and 3) organization and were investigated from the perspective of the Israeli Defense Forces (IDF), the French Military, and the African Union Coalition Forces (Somali and Kenyan Militaries, and associated militias).

#### **a. Israeli – Hezbollah War**

##### **i. Background**

In July of 2006, after Hezbollah fighters kidnapped two IDF Soldiers, war broke out between Israel and Hezbollah in Lebanon. The Israelis responded to the kidnapping with an extensive air campaign with the aim to destroy Hezbollah's ground-to-ground rocket capability and influence them to release the two captured Soldiers.<sup>9</sup> Although initially disrupted by the destructive air strikes, Hezbollah unleashed its own attack within 24 hours, launching an intense rocket salvo from southern Lebanon into Israel. Hezbollah's rocket campaign was highly effective, with an average of over 100 rockets falling on northern Israel per day consistently. From the outset the Israeli Air Force (IAF) had complete control of the air and conducted over 12,000 sorties throughout the month-long campaign. Although they destroyed a large number of Hezbollah's long-range rockets, the IAF failed to slow the rate of rocket attacks.<sup>10</sup>

In the next phase of the operation, the IDF conducted a series of limited objective raids with the aim to destroy Hezbollah's short-range rocket capability, and disrupt its base of operations in



the border region. The original ground plan of limited raids was quickly altered as Hezbollah had prepared a network of bunkers and defensive belts to ensure a protracted ground fight.<sup>11</sup> The war concluded with IDF forces penetrating deep into Lebanese territory but with no significant strategic effect.

The war with Hezbollah was considered a failure of the IDF by some inside and outside of Israel, based primarily on the fact that there had never been a clear strategy or declared definition of what success in the campaign entailed.<sup>12</sup> The IDF was unprepared for a high-intensity conflict with Hezbollah, which required a completely different mentality from that of the counterinsurgency strategy the IDF had implemented against Palestinian terrorists in Gaza for the past several years. In the 2006 conflict, the IDF demonstrated they were unfit to conduct combined arms battles that required the Infantry, Special Forces, Armor, Engineers, Aviation, and Artillery to synchronize their efforts in a complex urban environment.<sup>13</sup>

## **ii. Intelligence Failures**

The IDF's failures in intelligence were not a product of *bad* intelligence, or a lack of intelligence. The problems occurred because of the IDF's ineffective organizational structure and poor methods of disseminating intelligence. The Israeli intelligence community had vast knowledge of Hezbollah's military capabilities, disposition, composition and strength. However, this information was not disseminated to the right commanders at the right times for it to be used effectively. For example, Israeli intelligence discovered an extensive bunker and tunnel system near the town of Maroun a-Ras but failed to disseminate this information to the maneuver units on the ground. This lack of coordination was a major factor in the high number of casualties sustained and in the IDF's tactical failures on the ground.<sup>14</sup>

Conversely, Hezbollah had a very effective Intelligence, Preparation, of the Battlespace (IPB) process that included an open source intelligence collection and analysis center to examine Israeli and outside media sources. Hezbollah established Listening Posts (LPs) and Observation Posts (OPs) to report on IDF troop movement. Hezbollah employed Iranian provided signals intelligence (SIGINT) capabilities in an attempt to monitor IDF traffic and were highly effective in monitoring non-secure platforms. Hezbollah was ineffective in monitoring encrypted platforms, but for reasons unknown, the IDF often defaulted to non-secure platforms for communication.<sup>15</sup>

The IDF's insufficient development of human intelligence (HUMINT) caused information gaps in the IDF's understanding of the complex human networks and the complicated relationships between Hezbollah, the Lebanese Government, and the local population. Furthermore, their lack of HUMINT in support of Unmanned Aerial System (UAS) attacks resulted in excessive civilian casualties.<sup>16</sup>

### **iii. Information Operations (IO)**

When fighting in megacities that are defined by mass media and global connectedness, winning the Information Operations (IO) war is essential. The IDF's failure to establish an effective IO campaign led to some in the media and international community to report the military action as illegitimate. According to after action reviews, many of the senior IDF officers and political officials did not understand the political and perceptual nature of this war. They lacked a targeted IO campaign directed toward the appropriate audiences to demonstrate that force was justified.<sup>17</sup> Ultimately, the IDF failed to convert the tactical successes they had into political victories through IO.

### **iv. Fires and Maneuver**

The IDF struggled to fire and maneuver deliberately through the disaggregated but interconnected urban areas. Hezbollah's extensive subterranean network allowed for maneuvering of personnel and equipment as well as the ability to penetrate IDF positions. IDF forces were constantly tied down in the built-up areas and could not effectively isolate Hezbollah forces. The IDF was unable to synchronize its efforts to allow for dynamic and focused maneuver of infantry and armor units.<sup>18</sup> Instead of synchronizing their combat power on multiple decisive points simultaneously to overwhelm the enemy, the IDF piecemealed their forces into the fight, and therefore achieved marginal results.

On the contrary, Hezbollah did not just remain static and defend terrain, but combined its small arms, mortars, rockets, IO, and antitank weapons to successfully maneuver against the IDF.<sup>19</sup> Hezbollah used terrain to a great advantage in the conflict. They built up urban areas as fortifications in conjunction with areas of broken and built-up terrain.<sup>20</sup> Hezbollah's most successful defensive operations came from taking advantage of normal civilian buildings and built-up areas. These existing civilian structures provided the same level of cover and concealment as military fortifications but were much harder to detect, provided better exfiltration routes, allowed more mobility between positions, and favored a complex defense in-depth technique.<sup>21</sup>

#### **v. Overreliance on Technology**

Prior to the conflict, the IDF developed a doctrine that had a misplaced reliance on precision munitions, long-range strike capabilities, and Intelligence, Surveillance, and Reconnaissance (ISR) assets as a substitute for a capable ground forces and human proficiency. The overuse of UAS without the appropriate HUMINT support led to inaccurate strikes and

unnecessary civilian casualties. The IDF preferred to rely on its standoff weapons to engage Hezbollah positions from afar, but quickly realized this was not feasible in the urban areas they were operating in. This war demonstrated to Israel that high-tech systems could be avoided and deceived, and ground forces, especially Infantry, Special Forces, and highly-trained individual Soldiers and teams are essential for operations in complex environments.<sup>22</sup>

## **vi. Training**

In the five years prior to the war with Hezbollah, the IDF conducted no major training exercises on combined arms maneuver in complex urban terrain. A distraught reserve armored battalion commander condemned the three IDF chiefs of staff “for having neglected land forces in favor of the air force, for sacrificing ground mobility on the altar of high-tech wizardry, and for squandering tank specialists in the nooks and crannies of the intifada.”<sup>23</sup> The same argument that has been made regarding the air-power theorists of the World War II era could be applied to the IAF commanders in 2006 in terms of their misplaced confidence in the ability of strategic air power to unilaterally defeat a determined enemy. With this mentality, most of the training repetitions and resources were dedicated to the IAF as opposed to ground forces and close air support.

The IDF robbed their tactical air capability to dangerous levels in an effort to pay the strategic air component bill. Although the IAF conducted a very destructive air campaign with over 12,000 sorties, the vast minority of these sorties were in support of ground maneuver. This demonstrates a major flaw with the IDF’s integration and organization of tactical aviation and maneuver units.<sup>24</sup> Though the air campaign was labeled a success by most in the IDF, this is debatable if analyzed based on the strategic objectives it achieved...or failed to achieve. The air

campaign was unable to force the release or rescue of the kidnapped IDF Soldiers; was not able to suppress Hezbollah rocket fire; inspired widespread condemnation for civilian casualties; and left IDF ground forces bogged down with limited maneuver support from the air.<sup>25</sup>

## **vii. Organization**

The issues discussed above in terms of intelligence failures and an inability to maneuver were partly the result of a flawed organizational structure. The fact that the Israeli intelligence services had extensive knowledge of Hezbollah tunnel systems and defensive belts but failed to distribute this information to the commanders on the ground, highlights a lack of integration between intelligence and operations.<sup>26</sup> The problems with integration of the various combat arms would be significantly improved with a better organizational model. The various arms worked well in isolation as this is how the IDF was organized to operate. Instead of being organized under one unified command (at the brigade or division level), they were organized separately and operated that way.

## **viii. Failure to Integrate Host Nation Partners**

The IDF failed in developing a host nation partner to augment its organic capabilities. The IDF had an extremely valuable partner in the Southern Lebanese Army (SLA) that it partnered with extensively to control the “Security Zone” in Southern Lebanon from 1985 – 1999.<sup>27</sup> The IDF made the decision to unilaterally attack Hezbollah and Lebanese infrastructure, adopting a strategy that Lebanon must be held accountable for Hezbollah’s actions. The IDF’s failure to develop an indigenous partner proved to be a catastrophic error and led to further miscalculations. On the contrary, host-nation integration was the strength of the African Union’s campaign against al-Shabaab in the Battle of Kismayo.

## **b. Battle of Kismayo**

### **i. Background**

The Second Battle of Kismayo was a combined military offensive led by Somali National Army Forces (SNA) and African Union Forces (AMISOM) mainly comprised of the Kenyan Military and Raskamboni allies, against al-Shabaab in the insurgent group's last major stronghold of Kismayo, Somalia. It began on September 28, 2012 with SNA and AMISOM forces conducting an amphibious landing approximately six kilometers north of Kismayo and then moving quickly inland to seize vital areas in the city.<sup>28</sup>

The SNA and AMISOM naval, air, and ground forces were successful in seizing the city with little resistance mounted by al-Shabaab. Kismayo was regarded as a major stronghold for al-Shabaab based on the revenue that the group was generating through exporting charcoal and levying port taxes on imported goods.<sup>29</sup> According to Al-Jazeera, the offensive was a major, “morale-dampening loss” for al-Shabaab, as the militants had few areas left from which to safely launch attacks on soft targets.<sup>30</sup>

### **ii. Surprise**

The amphibious assault conducted by SNA and AMISOM forces caught al-Shabaab completely by surprise. The ability to maneuver from the sea allowed the attacking forces to deal a decisive blow from a direction the rebels were not expecting. Residents, who remained in their homes as the battle continued, said the attack came from the air and sea and were shocked at how quickly it seemed to materialize.<sup>31</sup> As AMISOM and SNA forces were conducting the clearing operation of Kismayo's city-center, many fighting positions, and gun emplacements were found abandoned. This was a clear signal al-Shabaab had been prepared to mount a

defence of the city but had anticipated the attack to come from a northern avenue-of-approach.<sup>32</sup> Instead, AMISOM attacked from the sea and al-Shabaab forces abandoned their positions.

### **iii. Simultaneity**

Kismayo had been a key supply route for al-Shabaab and a source of taxes the group collected. Income from the port had generated as much as \$50 million a year from illegal trading.<sup>33</sup> In addition, the port represented a major conduit for smuggling weapons and other war fighting materiel. With this in mind, AMISOM and SNA forces made it a priority to take control of the port as soon as possible.<sup>34</sup> To alleviate the pressure and send a strong message, the SNA and AMISOM moved to simultaneously to seize the port, the key road intersections and Lines of Communication (LoCs) North of the city, and the Raskamboni militia cleared the city center. The swift and simultaneous actions on these points of manipulation sent a strong psychological message to the local population and put al-Shabaab in multiple dilemmas from which they could not recover.<sup>35</sup>

### **iv. Developing Non-traditional Alliances for Long-term Stability**

An innovative technique that AMISOM used to prevent volatility in the wake of the takeover was to enlist support from some of the local clans or militias that had the allegiance of the people, but could be brought onto the side of the government. One such militia that had a significant effect in Kismayo was the Raskamboni. The Raskamboni are a paramilitary group active in southern Somalia led that are vehemently opposed to al-Shabaab.<sup>36</sup> The Raskambonis were extremely effective at hunting down, and rooting out the al-Shabaab cells that infiltrated back into Kismayo after the attack. The Raskaboni's contribution to the coalition was significant in securing a stable environment in Kismayo in the weeks and months after the operation.<sup>37</sup>

### **c. Findings**

There were several important themes that emerged from these case studies as it relates to operations in complex environments such as: the importance of simultaneous and coordinated maneuver and fires; the danger of overreliance on technology to win wars; the importance of the organization structure in the synchronization of intelligence, IO, and combined arms. The case studies also demonstrated the importance of developing strong relationships with foreign partners through training and operations, and training specifically for operations in complex urban environments with a combination of conventional and Special Forces. The lessons learned from these case studies (along with French operations in Mali discussed later) were applied in the development of the following concept.

## **II. Concept**

### **a. Purpose**

The purpose of this concept is to generate discourse and make recommendations to encourage further debate on how the Army copes with the challenges associated with *Joint Combined Arms Maneuver (JCAM)* in complex urban environments. The U.S. Military has proven through historical precedent in places like Fallujah, Iraq and Hue City, Vietnam, that current doctrine for *Urban Operations* (FM 3-06 & JP 3-06) are appropriate sources to guide commanders in urban areas *that can be isolated*.<sup>38</sup> While *some* of the principles discussed in JP 3-06 and FM 3-06 are applicable for the megacity, this concept targets the many challenges that have not been specifically addressed in doctrine.

### **b. Time Horizons, Assumptions, and Risks**

#### **i. Time Horizons**

The recommended time horizon for this concept is in accordance with the



Chief of Staff of the Army's planning guidelines outlined in the AOC and nested with *Force 2025 and Beyond*.<sup>39</sup> With current data from the U.N. suggesting that there could be as many as 37 megacities by 2025, it seems logical to use 2025 as a planning factor for application of this concept.<sup>40</sup> While 2025 serves as a viable planning horizon, there are near-term requirements that would need to be implemented such as, short-term acquisition and technology development, implementation of the megacity as a training priority for Regionally Aligned Forces (RAF), and any necessary changes to Tables of Organization and Equipment (TO&E).

## **ii. Assumptions**

The following assumptions underlie this concept:

1. Control and/or Isolation of complex urban environments are problematic for U.S. forces.
2. Based on current trends, U.S. Forces will be required to conduct a combination of offensive, defensive and stability operations in a megacity (or megacity-like complex urban environment) in the next 20 years.
3. As the land component with limited strategic mobility, the Army is dependent on, and complementary to the joint force.
4. JCAM requires U.S. integration with multinational partners to provide the cultural, operational, and environmental advantages required for success in a megacity.
5. The current Army force structure will not support a counterinsurgency (COIN) campaign in the model of Iraq or Afghanistan.

### **iii. Risks**

The following risks must be considered and assessed as the development of this concept continues:

1. Friendly force loss of control based on simultaneous and decentralized operations. Operations in complex urban environments could involve multiple, small-unit actions of various sizes and scopes that are executed simultaneously. These actions are dependent on effective mission command and fire and maneuver control.
2. To increase disaggregation, tempo, mobility, and simultaneity, Army forces risk degrading their ability to effectively mass.
3. Additional risks may be incurred by delegating decision making authority to lower echelon commanders.
4. Host nation infrastructure and technology are unable to bridge the logistics gap.
5. Reduction of traditional force protection measures (heavy personal gear, fortified-forward operating bases, etc.) in order to maximize speed, mobility, and flexibility.

### **c. Description of the Problem**

Current Army doctrine, organizational structure, and training priorities do not account for specific conditions units will encounter in a megacity such as scale, connectedness, flow, density, and context.<sup>41</sup> While urban areas are naturally problematic for military operations, megacities contain unique characteristics that distinguish them from *normal* urban areas. Factors

which set megacities apart from other urban locales include global connectedness and immense metabolism rates in terms of resource intake and waste output.<sup>42</sup> Complex operating environments of the future (such as megacities) are characterized by resource limitations, rampant organized and disorganized crime, non-existent governance and rule of law, wealth inequalities, extreme poverty, degraded infrastructure, disease, and pollution.<sup>43</sup>

In addition to its natural complexity, future adversaries use the megacity's complex terrain to conduct conventional and unconventional warfare in an attempt to neutralize the overmatch of U.S. forces. State and non-state actors will employ counter-measures to inhibit U.S. freedom of movement such as integrated air-defenses and urban defensive belts intermingled with civilian populations. Future adversaries will operate beyond the physical realm to avoid direct combat using subversive techniques such as cyber and IO to diminish U.S. political will.<sup>44</sup> As was the case for the IDF in their conflict with Hezbollah in 2006, U.S. forces should assume future adversaries will possess the capabilities to degrade its technological advantages in areas such as long-range strike capability, UAS, and digital command and control.<sup>45</sup>

#### **d. Synopsis of the Central Idea**

The Army aligns general purpose and special operations forces into a *multi-purpose force* [Means], to integrate with joint forces to create multiple dilemmas for its adversaries to ultimately defeat them, gain a position of relative advantage, or create leverage by influencing multiple points of manipulation simultaneously [Way]. The *multi-purpose force* conducts JCAM in a megacity to “achieve access across all domains, land, maritime, air, space, and cyberspace to strike the enemy at an unknown time or location and create multiple dilemmas.”<sup>46</sup> The [Ends] is that the *multi-purpose force* wins in complex urban environments.

A recent historical example of what this concept aims to achieve was demonstrated by the French military in Mali in 2013. Although this operation did not occur in a megacity, the conditions were complex and the French military provided several valid lessons such as, staying ahead of your adversaries decision cycle through high-tempo and audacious actions, and partner integration.

#### **i. Operation SERVAL – Mali**

French actions during Operation SERVAL in Mali in 2013 were defined by tempo, mobility, surprise, flexibility, and integration.<sup>47</sup> The French achieved strategic surprise and maintained the initiative by acting with greater audacity and speed than the Islamists. The French used a combination of SOF, commando and light units, and mechanized – highly mobile forces with heavy fire power to attack multiple points of manipulation simultaneously. They moved at speeds that strained their logistical capabilities but maintained a high tempo that kept the Islamists off balance by creating multiple dilemmas. They demonstrated the importance of bold and constant movement which retained the tactical initiative and prevented the enemy from targeting static positions.<sup>48</sup> Future multi-purpose forces should aim to employ this type of tempo and dynamic action in a megacity.

#### **ii. Multiple Dilemmas**

Creating multiple dilemmas involves dictating the terms of the operation with high-tempo operations, attacking with multiple arms at multiple points simultaneously to render adversaries incapable of responding effectively. The actions the enemy takes to avoid one attack will make him more vulnerable to another. To achieve multiple dilemmas, forces will operate in a dispersed manner over a wide area but maintain the ability to quickly concentrate their efforts through intelligence and operations integration.

### **iii. JCAM and Points of Manipulation**

JCAM is achieved by combining the capabilities of multiple arms or elements from one or more of the services, other government agencies, and multinational partners to support maneuver across multiple domains to gain and maintain a relative advantage over adversaries. The Army, through the creation of the multi-purpose force will seize, maintain, and exploit the initiative on land as the joint-force maneuver element.<sup>49</sup> Points of manipulation are defined as any person, location, network, connection, entity, communications or information node, or logistical requirement that is essential to an adversary's ability to operate in a complex environment. By attacking, neutralizing, securing, influencing, or defeating these points of manipulation, the enemy will be thrown off-balance (physically, psychologically, or both) to the point he is rendered irrelevant. Some examples of points of manipulation in a megacity are, key leaders (uniformed, non-state actor, criminal, or other), command and control nodes, ports, media or information centers, commerce centers, key lines of communication, logistical hubs, or network intersections.

### **iv. Multi-domain Maneuver**

Multi-domain maneuver as described by Sun Tzu is: "[t]aking advantage of the enemy's unpreparedness; travel by unexpected routes and strike him where he has taken no precautions."<sup>50</sup> As our adversaries continue to develop anti-access capabilities to degrade U.S. freedom of movement, the *joint* community must maximize its expertise to create forcible entry forces equipped to maneuver across multiple domains simultaneously to strike the enemy in manner for which he unprepared.<sup>51</sup> The multi-purpose force can contribute to a joint-forcible entry operation but is also reliant on the joint force to gain entry to allow access for its follow-on forces. Additionally, the multi-purpose force is reliant on the joint-force to provide the strategic

mobility to get its assets into the fight and ensure the joint-force can gain access through all domains - land, sea, air, space and cyberspace.

#### **v. The Multi-purpose Force**

With a wide range of possible contingencies based on the uniqueness of each megacity, Army units conducting JCAM will require a versatile force structure, tailored for the specific situation. The Army can achieve this by creating diverse and rapidly scalable formations based on the capabilities required to operate in complex urban environments. This diversity can be accomplished replacing the Brigade Combat Team (BCT) with the *Division* as the basic fighting unit of the Army. This simple and logical adaptation to the current force structure would organically provide all of the necessary capabilities to include, intelligence, aviation, engineering, IO, and cyber assets to the Joint Task Force (JTF) Commander.

Another adaptation of the force structure is the integration of Special Operations Forces (SOF) into the division. This *multi-purpose force* construct provides the commander the flexibility of determining the appropriate SOF / conventional force ratio based on the situation and negates the tension that can exist between SOF and conventional forces. The AOC states, “[f]orces tailored rapidly to the mission will exercise mission command and integrate joint, interorganizational, and multinational capabilities.”<sup>52</sup> Adopting the multi-purpose force construct allows the commander to scale up or down appropriately to create the *right* formula for each situation, while avoiding the tedious and awkward combining of various (non-organic) BCTs and outside SOF units to form an ad-hoc JTF.

The 4<sup>th</sup> Infantry Division (ID) is a perfect test-unit to demonstrate this concept. As a hybrid organization, the 4<sup>th</sup> ID is well suited to operate as a JTF with its division headquarters, Stryker BCT, Light Infantry BCT, Armor BCT, and organic aviation and engineer brigades. With the

addition of a SOF Company to the organization (hypothetically for the purposes of this concept), 4<sup>th</sup> ID would be the model *multi-purpose force*.

#### **vi. Persistent Air Support**

The Persistent Aviation Support (PAS) concept is an emerging theory that would naturally compliment JCAM in a complex urban environment.<sup>2</sup> The PAS concept argues that helicopters, specifically attack helicopters and UAS can be airborne and conducting operations 24 hours a day, seven days a week.<sup>53</sup> Besides the obvious advantage provided by fires and ISR, the mere presence of friendly aircraft (manned or unmanned) on the battlefield has a significant psychological impact on the enemy that can allow maneuver (ground) commanders to gain and maintain a position of relative advantage over the enemy.

With PAS, Army Aviation should be organized under the task force commander. This could be done in the fashion of the previous Armored Cavalry Regimental structure where an aviation squadron was organized under the regiment. This structure would improve interoperability between air and ground forces through an enduring relationship and multiple training repetitions, and would empower the PAS concept to support multi-purpose forces in a megacity. Within this framework, a UAS component should be organized under the aviation battalion. This will allow for a more complimentary relationship between manned and unmanned systems at the unit level, as opposed to the current competing relationship.<sup>54</sup>

#### **vii. Balancing Technology and Human Investment**

This concept advocates the leveraging of technological advancement, but not at the cost of neglecting investment into the improvement of basic Soldiering in both the cognitive and tactical

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<sup>2</sup> For a full description of the Persistent Aviation Support (PAS) concept, reference Major Robert Sickler's Master of Military Studies (MMS) paper, *Army Aviation and the Megacity: Winning in a Complex Urban Environment*.

sense. While the development of emerging technologies continue in areas such as, ISR, sustainment methods, precision strike capability, and digital C2 systems; fundamental shoot, move, communicate, and medical capabilities must remain the cornerstone of success in complex environments.

#### **e. Application of Military Functions**

##### **i. Fires and Maneuver**

Multi-purpose forces operating in a megacity will favor the land-force tenets- tempo, mobility, simultaneity, adaptability, and lethality, versus the protection-centric strategy of recent wars in Iraq and Afghanistan. Disaggregation and disciplined small-unit action with light infantry, SOF, and a large contingent of multinational forces working the interior of the megacity, with heavier, mobile forces (Stryker and/or Armor) on the periphery to interdict or restrict Lines of Communications (LOCs) will define how the multi-purpose division will operate. Units will learn to flow with the natural metabolism of the area by blending in with indigenous security forces to reduce their signature in the interior, while maintaining a high level of mobility and firepower provided by organic aviation, and wheeled and tracked platforms on the flanks to mass combat power when necessary to exploit opportunities. Soldiers and leaders of the multi-purpose force will train to thrive in austere conditions and pride themselves on limiting their logistical requirements by exploiting the internal infrastructure of the megacity.

A robust and enduring Close Air Support (CAS) capability is required for operations in a megacity. Due to the physical and human terrain of the megacity, the effectiveness of artillery and mortars could be degraded in some cases. The PAS concept is one possible solution to the fires and ISR gap. PAS has the ability to restrict enemy freedom of movement and provide the means for ground commanders to conduct timely, informed maneuver.<sup>55</sup>



The multi-purpose force, with its organic capabilities embodies the core tenets of simultaneity, adaptability, tempo, mobility, and lethality. The division has the unilateral ability to conduct simultaneous operations at a high tempo provided by the combined mobility and firepower of wheeled, armored, and rotary wing capabilities, enhanced through the adaptability of SOF and indigenous forces.

## **ii. Mission Command**

The mission command philosophy is ideal for conducting JCAM in a megacity if implemented properly. The idea of disciplined initiative at the lowest level is critical for leaders operating in decentralized and uncertain environments like the megacity. Leaders must train repetitively through self-study, rigorous force-on-force exercises, simulations, staff rides, and professional development sessions to gain the confidence, trust, and common understanding in order to operate with degraded communications and thrive in chaotic situations. Furthermore, a training focus on cognitive ability, cross-cultural study, and language will provide a marked advantage to Soldiers and leaders over potential adversaries.<sup>56</sup>

Establishing the appropriate command structure for specific situations and determining how mission command will translate to multinational partners and interagency partners presents a significant challenge in exercising mission command in complex environments. By implementing the multi-purpose force into the Geographic Combatant Commander's regionally aligned training rotation, the goal is to develop procedures to integrate multi-national and interagency partners into the mission command structure. As it relates to the organic multi-purpose force, it is a matter of establishing the *right* commander and headquarters depending on the level of responsibility, task force size, and personal background of a particular officer based on the situation.

### **iii. Intelligence**

Similar to the IDF in 2006, U.S. Army intelligence sections (S-2) at the BCT and battalion levels are not sufficient for operations in complex environments. JCAM will require a more robust organic SIGINT and HUMINT capability to provide the commander an accurate and timely picture of an ever-changing situation.<sup>57</sup> Adopting the multi-purpose force concept would alleviate many of the shortfalls based on a more robust intelligence section at the division level. However, new and innovative intelligence capabilities must be developed to counter the fast-paced and constantly changing conditions in a megacity.

### **iv. Sustainment**

Securing supply lines in and out of a megacity will be problematic, if not impossible. However, the megacity can offer some advantages in logistics. Just as the French sourced most of their fuel and Class I requirements from the local economy in Mali, U.S. multi-purpose forces can limit their logistical tail by *foraging* from the urban environment.<sup>58</sup> Future development of next generation vehicles and equipment designed to operate in more austere environments will be essential in meeting this goal. Just as the Stryker family of vehicles was designed with a dual-fuel capacity, future program developers must consider resource constrained environments and energy efficiency in their design methodologies. The Army must continue to develop unmanned technology to minimize the ground lines of communication, decrease risk to Soldiers, increase freedom of movement, and allow for JCAM operations in the most austere conditions.<sup>59</sup> Lastly, multi-purpose forces must embrace an expeditionary (Ranger School-like) mind-set that allows them to mentally and physically cope with the most rugged conditions.

### **v. Force Protection**

The multi-purpose force will leverage tempo, simultaneity, mobility, adaptability, and lethality to provide the adequate measure of force protection. Operations in megacities will demand a decrease on the reliance of large fixed sites such as, Combat Outposts (COPs) and Forward Operating Bases (FOBs) as in the model of Iraq and Afghanistan. Multi-purpose forces should make use of roving urban patrol bases (as taught at Ranger School) and existing infrastructure of the host-nation security forces for temporary basing. The complex terrain and population density will not support the build-up of fixed sites based on their vulnerability to enemy attack and their disruption of the normal city metabolism, but existing host-nation facilities provide ready-made areas to utilize as a base of operation in the megacity. To rapidly gain and maintain the initiative, units should avoid static positions, increase movement and avoid setting patterns to develop situation awareness, deliver accurate fires, and understand the correct points of manipulation that need to be influenced.

#### **f. Necessary Capabilities**

##### **i. Interagency Integration**

The Army should to continue the positive trend developed in Afghanistan and Iraq of synchronizing, and in some cases supporting the efforts of the other instruments of national power. David Kilcullen reinforces this point, stating:

[t]here are still no *purely* military solutions to many of the challenges we will encounter, meaning that disciplines such as law enforcement, urban planning, city administration, systems design, public health, and international development are likely to play a key part in future theory of conflict.<sup>60</sup>

There are likely scenarios in a megacity where the multi-purpose force could be the supporting effort and should be prepared to integrate with our interagency partners to support those missions.

## **ii. Partner Integration**

Leveraging host-nation capabilities, cultural knowledge, tactics, infrastructure, and environmental awareness will be essential in all JCAM operations in a megacity. As highlighted in the case study on the pacification program in the *Favelas Complexo do Alemão* in Rio, Brazil in 2010, partnered forces could include the police, military, city officials, public works officials, or a combination of all.<sup>61</sup> Another example is AMISOM's partnership with the Raskamboni militia to root out the remaining al-Shabaab forces and establish security in Kismayo. Multi-purpose forces will benefit from partnerships with non-traditional groups in the future like the Raskamboni militia who can contribute to creating multiple dilemmas.<sup>62</sup> Codifying the megacity as a unit training priority will further strengthen the Army's multi-national force partnerships.

## **iii. Training**

As discussed in the AOC, and the Strategic Studies Group's (SSG) analysis, the Army must institutionalize the megacity into the joint training construct.<sup>63</sup> Furthermore, Title 10 mandates that the U.S. Army "is organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land."<sup>64</sup> Megacities (and other complex urban environments) fall within this jurisdiction and require further attention in the Army's training priorities.<sup>65</sup>

The next step is for the Army to implement the megacity as a training priority for the each of the Regionally Aligned Forces (RAF).<sup>3</sup> This priority should align with security cooperation initiatives and phase 0 efforts in accordance with the Geographical Combatant Commander's (GCC) campaign plan. This would allow each of the RAFs to train with multi-national partners (in the theatre of operation) to gain competency, increase interoperability and access, and develop expert knowledge on the megacities located in their area of operation (AO). These joint and combined training opportunities in a megacity could include anything from Training Exercises without Troops (TEWTs), senior leader staff rides, or force-on-force training with partner nations.<sup>66</sup> This training technique was validated by the French in Mali in 2013:

[F]rance has been working with at least two Malian Tuareg forces, Haji ag Gamou's Malian Army units and the MNLA. France's relations with Gamou's force and the MNLA, though not free from problems and controversies, suggest a high degree of familiarity with northern Malian affairs as well as the ability and willingness to engage local forces and, in effect, leverage internal Tuareg factional competition. French forces almost certainly knew what they were doing and with whom they were dealing before they arrived in Mali. They did not have to scramble to get up to speed.<sup>67</sup>

Home station training for multi-purpose forces (not in the RAF cycle) could be vastly improved by developing relationships with municipal agencies, police and fire departments, city planners, and public works officials of stateside urban areas to gain a better understanding of these disciplines.

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<sup>3</sup> The RAF strategy seeks to align an Army Division and associated enablers with each combatant commander in order to provide a joint-capable and scalable force to shape the operational environment. For more information see: Headquarters Department of the Army, *The U.S. Army Operating Concept: Win in a Complex World*, TRADOC Pamphlet 525-3-1 Training and Doctrine Command (7 October 2014)

### **III. Spatial and Temporal Dimensions**

Future threats in a megacity will be uniquely challenging based on its complex networks that are connected locally, regionally, and globally. Spatial and temporal dimensions for JCAM operations in future will be defined differently at the operational and tactical levels. An example at the operational level is the 2008 terrorist attacks in Mumbai, India. Had the U.S. been compelled to take military action against this threat, it would most likely have required simultaneous actions in both Mumbai (on the attackers) and Karachi (the command and control center), and other locations (the support efforts) spanning the boundaries of multiple GCCs.<sup>68</sup> The geographic distance at the operational level adds a level of complexity as the GCCs must coordinate and synchronize their actions across time, space, and resources.

Spatial and temporal dimensions at the tactical level include a specific megacity (or a sections of the megacity) and the outlying areas. The multi-purpose force is well-suited to meet various scenarios that could occur in a megacity as a self-contained task force or with augmentation. The multi-purpose force will maintain the capability to apply SOF, Armored and Mechanized Forces, and Light and Stryker Infantry, as well as organic aviation for additional mobility, ISR, and CAS. The multi-purpose force will maintain a robust staff to support the commander and will possess the required engineer and logistics assets to support high-tempo maneuver. As an example, Light Infantry and/or SOF would work with multinational partners to blend in with the environment while actioning simultaneous targets, while Armor and Stryker forces provided a mobile cordon from the periphery. Along with aviation support through PAS, the multi-purpose force could mass its combat power to exploit opportunities, or operate in a disaggregate manner to action simultaneous targets and create multiple dilemmas for the enemy.

Whether operating in a specific neighborhood in a megacity, or from multiple locations inside the same megacity, or across multiple regional boundaries as described above, Army forces must be prepared to synchronize simultaneous efforts across time and space while projecting combat power through all domains. Ultimately, this concept aims to provide options to the GCCs for contingencies in extremely complex environments like the megacity.

#### **IV. Conclusion**

Based on current globalization trends, the Army will conduct a combination of offensive, defensive, and stability operations in a complex urban environment in the next 20 years. Whether the megacity consists of a population of 10 million or not is irrelevant. If the urban area is defined by population density, global connectedness, complex human networks, and urban sprawl, it meets the criteria of a complex urban environment and is a legitimate problem requiring further consideration of military planners.

Future armed conflict will continue to become more complex based on the increasingly *human* nature of war, with threats emerging from dense and ungoverned urban areas, and the increased availability of lethal weapon systems. Enemies and adversaries will challenge U.S. overmatch in the land, air, maritime, space, and cyberspace domains. Advanced technologies will be transferred from state to non-state actors. Because these threats tend to originate from densely populated urban centers, the U.S. cannot rely on technology and long-range strike capability alone to win its future wars. A capable and multi-functional, combined-arms force will be required for operations in the chaotic and uncertain environments of the future.<sup>69</sup>

The multi-purpose force is a logical and realistic adaptation of the current force structure that could be implemented in the near-term to address the potential gaps in doctrine, organization, and training priorities. However, additional research, testing, and validation are required for

future operations in megacities. As new information is absorbed, new questions will arise that need to be answered. Ultimately, this concept aims to grow the discourse and spark interest for further debate on how the Army will cope with the significant challenges associated with operations in complex urban environments.

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<sup>i</sup> Headquarters Department of the Army, *The U.S. Army Operating Concept: Win in a Complex World*, TRADOC Pamphlet 525-3-1 Training and Doctrine Command (7 October 2014), IV.

<sup>ii</sup> Chief of Staff of the Army Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, Staff Study (June 2014), 2.

<sup>iii</sup> Headquarters Department of the Army, *The U.S. Army Operating Concept: Win in a Complex World*, TRADOC Pamphlet 525-3-1 Training and Doctrine Command (7 October 2014), 5.

<sup>4</sup> Chief of Staff of the Army Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, Staff Study (June 2014), 37.

<sup>5</sup> David Shunk, "Mega Cities, Ungoverned Areas, and the Challenge of Army Urban Combat Operations in 2030-2040," *Small Wars Journal* (January 2014): 1.

<sup>6</sup> Headquarters Department of the Army. *Urban Operations*. FM 3-06. (Washington, DC: Department of the Army, October 2013), I-10.

<sup>7</sup> Chief of Staff of the Army Strategic Studies Group, *Megacities and the United States Army: Preparing for a Complex and Uncertain Future*, Staff Study (June 2014), 2.

<sup>8</sup> Headquarters Department of the Army, *The U.S. Army Operating Concept: Win in a Complex World*, TRADOC Pamphlet 525-3-1 Training and Doctrine Command (7 October 2014), 5.

<sup>9</sup> Spencer C. Tucker, *The Encyclopedia of the Arab-Israeli Conflict – A Political, Social, and Military History*, Vol. 2 (Santa Barbara, CA: ABC-CLIO, Inc., 2008), 616-617.

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- <sup>11</sup> Matt M. Matthews, "We were Caught Unprepared: The 2006 Hezbollah-Israeli War," (Combat Studies Institute Press, U.S. Army Combined Arms Center, 2008), 43.
- <sup>12</sup> Gilbert Achcar and Michel Warschawski, *The 33 Day War – Israel's War on Hezbollah in Lebanon and its Consequences*. (London: Paradigm Publishers, 2007) 37.
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- <sup>14</sup> Amos Harel and Avi Issacharoff, *34 Days – Israel, Hezbollah, and the War in Lebanon*. (New York: Palgrave Macmillan, 2008), 133.
- <sup>15</sup> Anthony H. Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*. (Washington, D.C.: Center for Strategic and International Studies, 2007), 142.
- <sup>16</sup> Hany T. Nakleh, "The 2006 Israeli War on Lebanon: Analysis and Strategic Implications" (Strategy Research Project, US Army War College, 2007), 10.
- <sup>17</sup> Anthony H. Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*. (Washington, D.C.: Center for Strategic and International Studies, 2007), 42.
- <sup>18</sup> Anthony H. Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*. (Washington, D.C.: Center for Strategic and International Studies, 2007), 137-138.
- <sup>19</sup> Matt M. Matthews, "We were Caught Unprepared: The 2006 Hezbollah-Israeli War," (Combat Studies Institute Press, U.S. Army Combined Arms Center, 2008), 44.
- <sup>20</sup> Anthony H. Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*. (Washington, D.C.: Center for Strategic and International Studies, 2007), 15.
- <sup>21</sup> Anthony H. Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*. (Washington, D.C.: Center for Strategic and International Studies, 2007), 19.
- <sup>22</sup> Peter W. Singer, "Mike Tyson and the Hornet's Nest: Military Lessons of the Lebanon Crisis," 1 August 2006; available from <http://www.brookings.edu/views/op-ed/fellows/singer20060801.htm>; Internet; accessed 18 September 2006.
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- <sup>24</sup> Matt M. Matthews, "We were Caught Unprepared: The 2006 Hezbollah-Israeli War," (Combat Studies Institute Press, U.S. Army Combined Arms Center, 2008), 61.
- <sup>25</sup> William M. Arkin, *Divining Victory – Airpower in the 2006 Israel-Hezbollah War*. (Maxwell AFB, AL: Air University Press, 2007) 151.
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<sup>68</sup> CNN Library. "Mumbai Terror Attacks," *www.cnn.com*, (September 18, 2013), <http://www.cnn.com/2013/09/18/world/asia/mumbai-terror-attacks/> (accessed March 7, 2014). CrisisMappers.net

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