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AIRPOWER NECESSITY IN HYBRID WARFARE

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Exercise Solo Flight

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Introduction

Air power has been the essential element for the last thirty years in irregular warfare (IW). The US Army defines IW as “a violent struggle among state and non-state actors for legitimacy and influence over the relevant population(s). IW favors indirect and asymmetric approaches, though it may employ the full range of military and other capacities, in order to erode an adversary's power, influence, and will.”¹ Air power contributed in many conflicts especially the recent operations in the Middle East. John Warden III argue that airpower cannot achieve victory unless it is combined with forces in the ground “boots on the ground.” But these scholars have not studied in the same level of detail what airpower can add and contribute to IW and counter insurgency (COIN). In the last thirty years air power was a decisive tool in shaping theaters and supporting state or no state actors. Air power was highly successful adapting to IW characteristics and innovations leading to new ways to handle insurgents. The first Gulf war was the last major conventional war in the past 30 years. Air power played a huge role in that victory. In the end of the Gulf war II following the fall of Iraq created an environment when Iraq becomes a failing or weak state. Weak states and non-state actors did not have the access to advanced technology and used low Tech solutions to combat advanced technology enabled forces. Sun Tzu said in waging war, “victory is the main object in war. If this is long delayed weapons are blunted and morale depressed. When troops attack cities their strength will be exhausted.”² Insurgents want to wage a long war air power can shorten the duration of small wars. Later will illustrate the lessons learned from last operations starting with 2nd Gulf war, Afghanistan, Israel and Hezbollah, ISIS and finally Yemen proved that should be anticipated and should be part of planning.

¹ "JP 1, Doctrine for the Armed Forces of the United States." Accessed May 7, 2017. http://www.bing.com/cr?IG=334DAD0EE87F47478070D22870C6D046&CID=3268E4F2344B6B012151EE8935DB6ABF&rd=1&h=aBALqMjNbWuq3WzaiOlwEqX16J3eCWcA1gEEENuHTqY&v=1&r=http%3a%2f%2fdtic.mil%2fdoctrine%2fnew_pubs%2fjfp1.pdf&p=DevEx,5062.1

² Griffith, Samuel B. *Sun Tzu the art of war: translated and with an introduction*. London: Oxford University Press, 1982.73.

The aim of this paper is to illustrate what are the challenges of projecting air power in hybrid warfare the what was the lesson learns from in irregular warfare; finally how did UAE air force approach to hybrid warfare and was it effective to achieve their national strategy.

Airpower challenges

The airmen faced challenges using airpower in COIN collateral damage (CD), Attritions and political. In this paper will constraint in the three challenges mentioned previously. The center of gravity was the same for the government and the insurgents: the people. “Putting fire and steel on target” may backfire by alienating this center of gravity. CD is main threat to any counterinsurgency campaign, that it effect the population and compromise the support of population to legitimate government. “An air strike can cause collateral damage that turns the people against the host-nation (HN) government and provides insurgents with a major propaganda victory”³. Insurgent uses urban area to blend with civilian creating discrimination challenge for airmen plus using population as protection from air strikes. “twenty of twenty-three thousand munitions dropped by NATO in the 1999 Kosovo campaign caused collateral damage or civilian casualties.”⁴ Other evidence In Afghanistan, of the thousands of sorties allocated to CAS, only a small fraction have caused civilian casual ties, yet it is these aberrations that have often defined the public, media, and political perception of what airpower is doing there,⁵ Insurgents used guerrilla tactics to negate superior government firepower by blending insurgents into the civilian population and deny airpower targets. “The harm caused by collateral incidents

³ FM 3-24/MCWP No. 3-30.5, Counterinsurgency, E-1. The similarities between FM 3-24’s airpower annex and Corum and Johnson are intentional: Dr. Jim Corum largely authored the document with coordination in the early stage with Dr. Conrad Crane and Dr. Wray R. Johnson. Wray Johnson, telephone call with author, 18 November 2016

⁴ Paul G. Gillespie, “The Ultimate Weapon,” *MHQ: The Quarterly Journal of Military History*, 20 (Winter 2008), 63.

⁵ “Drones: the physical and psychological implications of a ...” Accessed May 8, 2017.

<https://www.bing.com/cr?IG=DEB21DB46D32426AA74E228BEC8A05C6&CID=1A9CC6F6A7046D4F1384CC8BA6946C5C&rd=1&h=ZVK4g8yivpJeQbqEUL-danCYiY4cVQmGOMFPQoIvX9g&v=1&r=https%3a%2f%2fwww.medact.org%2fwp-content%2fuploads%2f2012%2f10%2freport-drones-2012.pdf&p=DevEx,5061.1>

should not be ignored. Such events have seen the Afghan government call for a review of the legal framework for ISAF forces and the Afghan Senate cease business for a day in protest, whilst in September 2009 the death of many (perhaps over 100) civilians due to air attack in the German sector of Afghanistan led to the resignation of very senior military and political officials in German".⁶ Using drones was advantage in IW but some case it had negative affect was some "evidence that medical personnel and others who arrive at the scene to assist the injured have been targeted in drone attacks⁷.

Small war is attritions war. Insurgents in used tactics to deplete forces and make war expensive for land and air forces. Land forces suffers human casualties causing physical and psychological effect in air power to maintain surveillance and ISR to protect land force. In the other hand airpower, it self-suffers from the attrition war making war expensive demanding more flight and bombs. "According to media reports 129 helicopters and 24 fixed-wing aircraft have been lost in Iraq since the 2003 invasion, up to February 2009. Of these incidents, 46 have been attributed to hostile fire, such as anti-aircraft artillery and surface-to-air missiles"⁸. Mark Welsh "says its 15-month bombing campaign on the Islamic State is depleting its munitions supply and that additional money and other support is "critical" for "the long fight."⁹ Other evidence is NATO nations who participated in Libya campaign were running out of precision ammunition. Some will argue that is bad planning for their combat requirement and such factor should be considered when acquiring ammunition. That is true statement but no nation will plan to committee in war for long period plus the amount of funds required to purchase and storage. The

⁶ Ibid

⁷ Greenwald, Glenn. "US drone strikes target rescuers in Pakistan – and the west stays silent | Glenn Greenwald." The Guardian. August 20, 2012. Accessed May 07, 2017. <https://www.theguardian.com/commentisfree/2012/aug/20/us-drones-strikes-target-rescuers-pakistan>

⁸ "List of aviation shootdowns and accidents during the Iraq War." Wikipedia. May 05, 2017. Accessed May 07, 2017. https://en.wikipedia.org/wiki/List_of_aviation_shootdowns_and_accidents_during_the_Iraq_War.

⁹ "US Air Force running out of bombs to fight ISIS." Fox News. Accessed May 07, 2017. <http://www.foxnews.com/politics/2015/12/05/us-air-force-will-need-more-bombs-for-isis.html>.

argument is government committee airpower to campaign to avoid boots in the ground, and avoid losses of own troops in battles field, so political level doesn't loss own population support. .“There is an important role for the low-tech aspect of airpower in small wars. Simple, old aircraft can still do the job and may be more cost-effective”¹⁰. Many air forces chosen simple plate from to support close air support CAS, for example UAEAF selected Archangels (AT-802)¹¹.this shows the expense in committing to small war from human casualty and assets, long commitment require alternative and low cost equipment assets to sustain long airpower utilization in irregular warfare as an instrument to advance the overall political objective without damaging the cause through excessive force. Admiral Arthur Radford, USN “The measures of airpower is the ability of nation to exploit airspace for its own purposes” . The air superiority advantage in Iraq ,Afghanistan, and Yemen used against the collation by compromising the legitimacy of attacks in view of the world or causing political tension. “Pakistan has shut down NATO supply routes into Afghanistan after NATO helicopters and fighter jets attacked two military outposts on Pakistani territory”¹². As mentioned in evidence airpower utilizing the firepower may affect the political support to the campaign.

¹⁰ Farquhar, Dr. John T. "Airpower and Irregular War: A Battle of Ideas." Air and Space Power Journal - Airpower and Irregular War:. Accessed May 07, 2017. <http://www.au.af.mil/au/afri/aspj/article.asp?id=354>.

¹¹ Turnbull, Grant. "IDEX 2017: UAE eyes additional Archangels - Shephard Media - Aerospace, defence and security news and analysis." Shephard. Accessed May 07, 2017. <https://www.shephardmedia.com/news/special-operations/idx-2017-uae-eyes-additional-archangels/>.

¹² "Pakistan shuts down Nato supply routes into Afghanistan." BBC News. Accessed May 07, 2017. <http://www.bbc.com/news/av/world-asia-15908345/pakistan-shuts-down-nato-supply-routes>

Airpower lessons learn from IW

Airpower lesson learns push the shift from conventional use to hybrid air warfare's. Air power contributed with strategic air attacks in world war 2, then used more aggressively in Vietnam war to support IW, but the real quantum leap in gulf war was the for new airpower utilization in modern conventional warfare. Stating the outline for airpower contribution in IW Dr John T Farquhar Presenting a series of in-depth airpower case studies ranging from the 1916 Mexican punitive expedition against Pancho Villa to Israeli air strikes against Hezbollah in the early 2000s, Corum and Johnson conclude with general lessons. AS "Clausewitz stated, all warfare can be seen as political act but counter-insurgency is uniquely political nature"¹³. Airpower can't be alone in counterinsurgency operation, it should be part of "A comprehensive strategy is essential. Military, political, economic, social, and other resources must be coordinated to attain a political goal"¹⁴. The hole kinetic and non-kinetic effect of airpower is required like "in intelligence, surveillance, and reconnaissance (ISR), transport, medical evacuation, supply, etc., is usually the most important and effective mission in a guerrilla war"¹⁵. "The ground attack role of airpower becomes more important when the war becomes conventional. Bombing civilians is ineffective and counterproductive" collateral damage that combined with ground attack has negative effect. Maj Gen Allen G. Peck, USAF also stated how critical is high-tech aspect of airpower in small wars, as in smart bombs, space, cyber,"¹⁶. the length of the small war require low-tech aspect. "Simple, old aircraft can still do the job and

¹³ "Airpower in COIN: Can Airpower Make a Significant ..." Accessed May 8, 2017. http://www.bing.com/cr?IG=9BBBD773FADE4EC587978CD298A912A3&CID=28F571F0FF29613E3DEC7B8DFEB960B2&rd=1&h=J2LbG3qVPPZEcZWRhsOnUy_3Tv3JwOUhpNiUB1SBB7o&v=1&r=http%3a%2f%2fwww.tandfonline.com%2fdoi%2ffull%2f10.1080%2f14702430903392828%3fscroll%3dtop%26needAccess%3dtrue&p=DevEx,5062.1

¹⁴ Farquhar, Dr. John T. "Airpower and Irregular War A Battle of Ideas." Air and Space Power Journal - Airpower and Irregular War. Accessed May 08, 2017. <http://www.au.af.mil/au/afri/aspj/article.asp?id=354>

¹⁵ Ibid

¹⁶ Airpower's Crucial Role in Irregular Warfare. Accessed May 08, 2017. <http://www.au.af.mil/au/afri/aspj/airchronicles/apj/apj07/sum07/peck.html>

may be more cost-effective”¹⁷. Irregular warfare require “Effective joint operations are essential for the efficient use of airpower”. Small wars are intelligence intensive. Airpower provides the flexibility and initiative that is normally the advantage of the guerrilla. “The United States and its allies must put more effort into small wars training. Small or irregular wars are not simply smaller versions of conventional war. Similarly, building host nation (HN) airpower capacity is an effective force multiplier”¹⁸.

United Arab Emirates Air force in Yemen

UAE adapted hybrid concept of projecting air power in irregular warfare. Conventional training in 80’s AND 90’S then shifted the path to alter new path since 2000. Starting from sending pilots to USA for training part of F16 contract. Training included both airmen and ground controller of IW participation of UAE forces in Afghanistan part of International Security Assistance Force (**ISAF**) requirement to coordinate air support that resulted in establishing JTAC school in Abu Dhabi that consider the leading institute in the region . purchasing new platforms F16-block 60 and not only expensive platforms UAE air force recognized the nature of IW being long commitment and that fruited in acquiring the Iomax AT-802i low cost and Hi technology ¹⁹. That didn’t satisfy UAE AF demands. Searching for solution to maintain surveillance, and to counter IW tactics purchasing UAV from Chinas and US made. and spending billions of dollars in enhancing training and combat capabilities. Participation in operation odyssey down supporting the collation then enduring freedom OEF in Afghanistan. These participations gave

¹⁷ Airpower and Irregular War A Battle of Ideas

¹⁸ Corum and Johnson, *Airpower in Small Wars*, 425–37. The 11 points are quoted verbatim from Corum and Johnson while Dr. Farquhar has added additional comments based on the book’s commentary

¹⁹ Special Ops Aircraft Come Out Of The Shadows." Aviation International News. November 22, 2013. Accessed May 05, 2017. <http://www.ainonline.com/aviation-news/defense/2013-11-22/uae-special-ops-aircraft-come-out-shadows>.

UAE AF experience in COIN operation. With the UAE Air Force leading the way, the Emirati military developed an unrivalled reputation throughout the Gulf region²⁰.

“Yemen UAE participated in Yemen war (Decisive Storm) as part of the collation led by kingdom or Saudi Arabia KSA. UAE AF committed with 30 fighters and other platforms. To support the operation”²¹. In general Yemen war Houthis supported by Iran and ex-president Ali Abdullah Salah try to take over the Yemeni elected government who request from security council military support and from Gulf country council, that led to collation intervene in Yemen. UAE AF supported the air campaign against strategic targets and to achieve air superiority. After the achievement of all objective from the air campaign.

Air power a tool can be used to win population supports in liberating Aden. “Operation Golden Arrow, which seized Aden from Houthi control, demonstrated operational skill and courage. A team composed of Yemenis and beside UAE Presidential Guard special forces landed in Crater, one of the coalition-controlled areas in Aden”²². After extensive air campaign shaped the battle field for rebels and UAE land forces to conduct amphibious landing in Aden. It considered one of the , and UAE air forces used in the operations the theory of “winning hearts and mind” the aim was to defeat the insurgents (Houthis and Salah forces) and the same time support the rebels plus co Hadi forces. “The joint operations between UAE air force and presidential guard (special forces), resulted decisive win in Aden battel”²³. Some will argue that

²⁰ Chandrasekaran, Rajiv. "In the UAE, the United States has a quiet, potent ally nicknamed 'Little Sparta'" The Washington Post. November 09, 2014. Accessed May 01, 2017. https://www.washingtonpost.com/world/national-security/in-the-uae-the-united-states-has-a-quiet-potent-ally-nicknamed-little-sparta/2014/11/08/3fc6a50c-643a-11e4-836c-83bc4f26eb67_story.html?utm_term=.cd2358262edf.

²¹ Salem, Ola. "UAE military intervention in Yemen was 'inevitable'." The National. March 26, 2015. Accessed May 06, 2017. <http://www.thenational.ae/uae/uae-military-intervention-in-yemen-was-inevitable>

²² "The Saudi-UAE War Effort in Yemen (Part 1): Operation Golden Arrow in Aden." The Saudi-UAE War Effort in Yemen (Part 1): Operation Golden Arrow in Aden - The Washington Institute for Near East Policy. Accessed May 06, 2017. <http://www.washingtoninstitute.org/policy-analysis/view/the-saudi-uae-war-effort-in-yemen-part-1-operation-golden-arrow-in-aden>

²³ Browning, William Maclean Noah, and Yara Bayoumy. "Yemen counter-terrorism mission shows UAE military ambition." Reuters. June 28, 2016. Accessed May 06, 2017. <http://www.reuters.com/article/us-yemen-security-emirates-idUSKCN0ZE1EA>.

UAE air force didn't win the population support but the special forces and rebels they did, their affect and presence can be measured. That is true statement but the air force did provide the firepower intelligence and surveillance, precise attacks resulted in low casualty in collation forces and rebels and the short time to take Aden back from Houthis. Taking the collateral damage estimate CDE was one main point taking by planner and executer the aim is to gain population support. That all gave the airpower respect among the population and even from insurgent and that proved in changing their tactic in Marib and Tazz changed their approach later

New concept in Marib battle, UAE air force support Collation adaptation of Mao attrition theory in irregular warfare. "After the success in Aden battle collation moved the toward Marib province paving the road to Sana and the same time cut supply lines from the east towards Sana"²⁴. The collation concerned about civilian life and a didn't want to lose the Yemen population support, they adapted attrition approach by air interdiction and cutting supply lines from Houthis insurgents plus daily air strikes in their trenches. Houthis after their lost in Aden battel also changed their tactics to attrition warfare and using insurgent tactics plus tactical missiles attacks using the weather for their favor. "UAE lost 52 soldiers in missile attack in Marib province, this lost inspired collation rather than breaking their well to fight"²⁵. These attacks forced the collation to deploy patriot air Defence system that took this counterinsurgency to a different level of warfare. Conventional warfare required air Defence to protect forces in the field but in regular counterinsurgency the norm is no is requirement for air Defence. This case is different Houthis took control of TBM camps and air defense become essential for force protection. UAE AF used Area bombing for PSYOPs to effect both sides moral, by using the

²⁴Press, Associated. "In Yemen, UAE Troops Push Toward Rebel-held Capital." VOA. September 14, 2015. Accessed May 06, 2017. <http://www.voanews.com/a/yemen-emirati-troops-push-toward-houthi-held-sanaa/2963400.html>.

²⁵ Qalisi, Mohammed Al. "Yemen forces tighten siege on Marib." The National. September 15, 2015. Accessed May 06, 2017. <http://www.thenational.ae/world/middle-east/yemen-forces-tighten-siege-on-marib>

effect of sounds of bombs in mounting area with there are no forces or civilian, it gave Yemeni troops the feeling of being secured and supported at the time in opponent felt vulnerable and easy target for the air force. Some will argue that this expensive approach with no guaranty for success. Last statement has truth in it, but war is expensive tool and life's are more valuable and minimizing casualties will affect population support in positive way. following Sun Tzu quote "Supreme excellence consists of breaking the enemy's resistance without fighting"²⁶. Analyzing from that firepower utilization in calculated manner and wisely will add positive affect in COIN. That said so this tactic broke insurgents well to fight with minimizing casualties from both sides and . The effect exceeded winning Marib battle but the effect extended far to future by simplifying the blend of insurgents in society. Some will argue that doesn't have any effect in forces, there are no destruction and casualties from the insurgents, that will not affect their defense lines. The aim wasn't destruction as David Kilcullen defines COIN as "a competition with the insurgent for the right and the ability to win the hearts, minds and acquiescence of the population."²⁷. that for success, the counterinsurgent must use combat power carefully, indeed even sparingly, because misapplied firepower "creates blood feuds, homeless people and societal disruption that fuels and perpetuates the insurgency." That is exactly what the Yemeni forces felt they are protected and they are in the legitimate side.

Surprise combined with mass air firepower attacking center of gravity paved the way for Al Mukalla liberation. On the 24th of May 2016 after heavy air strikes, Yemeni troops back by UAE special forces entered Al Mukalla city liberating it from Al-Qaida. Following Sun Tzu guidance "Those who are skilled in producing surprises will win. Such tacticians are as versatile

²⁶ "Sun Tzu Quotes, The Art of War Quotes." Sun Tzu Quotes and Quotations - The Art of War Quotes. Accessed May 06, 2017. <http://www.military-quotes.com/Sun-Tzu.htm>.

²⁷ David Kilcullen, "Twenty-Eight Articles: Fundamentals of Company-Level Counterinsurgency," IO Sphere, Summer 2006, 29, www.au.af.mil/info-ops/iosphere/iosphere_summer06_kilcullen.pdf

as the changes in heaven and earth plus”. And applying Warden 5 rings theory and applying it in COIN, he stated “destruction or neutralization of the leadership COG(s) produces total physical paralysis of the system.”²⁸. implementing both theory surprise from SUN TZU and attacking CG “Air strikes caused death of 850 al-Qaida members in AlMukalla”²⁹ according the report, reality numbers were between 450-650 casualties from al-Qaida. Per the report it took only 24 hours to capture the hole city with no resistance. There will be challenge to that air power didn’t target all al-Qaida members and some fled the city³⁰ to mountain area. Challenging that statement, the air force targeted the leaders who are the center of gravity and disrupt their network which facilitate capturing the city back with no resistance³¹ meaning that no requirement for destruction all the city or creating CD case may affect the image of the liberating forces. This battel was one of the classic wining hearts and mind of AlMukalla population, winning their hearts by supporting Rebels by CAS and ISR. Not only the fire power but also by logistics as soon the airport surrounding area cleared and secured C-130 with logistics and Aids to population of AlMukalla³². The Dr Richard Goette explained “the positive psychological effect by non kinetic effect and how the sound of airplane gives the hope and relief adding to that how vital is it to mission success”³³. Evaluating the approach in AlMukalla was joined effect kinetic and non kinetic contributed in success of the battle and population support to the Yemeni troops and collation but taking the city with no resistance handing the city to the legitimate government.

²⁸ David S. Fadok, “John Boyd and John Warden: Airpower’s Quest for Strategic Paralysis,” in *The Paths of Heaven: The Evolution of Airpower Theory*, ed. Phillip S. Meilinger (Maxwell Air Force Base, AL: Air University Press, 1997),

²⁹ France-Presse, Agence. "Saudi coalition claims it killed 800 al-Qaeda fighters in Yemen." *The Telegraph*. April 25, 2016. Accessed May 06, 2017. <http://www.telegraph.co.uk/news/2016/04/25/saudi-coalition-claims-it-killed-800-al-qaeda-fighters-in-yemen/>.

³⁰ Qalisi, Mohammed Al. "Yemeni forces drive Al Qaeda out of stronghold in Mukalla." *The National*. May 01, 2016. Accessed May 06, 2017. <http://www.thenational.ae/world/middle-east/yemeni-forces-drive-al-qaeda-out-of-stronghold-in-mukalla>.

³¹ Jazeera, Al. "Yemen war: Al-Qaeda fighters leave Mukalla." *News from Al Jazeera*. April 25, 2016. Accessed May 07, 2017. <http://www.aljazeera.com/news/2016/04/yemen-mukalla-al-qaeda-160425063257940.html>.

³² Report, Gulf News. "Yemen’s Al Mukalla airport reopens with UAE aid flight after Al Qaida exit." *GulfNews*. May 09, 2016. Accessed May 07, 2017. <http://gulfnews.com/news/gulf/yemen/yemen-s-al-mukalla-airport-reopens-with-uae-aid-flight-after-al-qaeda-exit-1.1822250>.

³³ Government of Canada, National Defence, Royal Canadian Air Force. "The Positive Psychological Effect of Air Power (RCAF Journal - SUMMER 2015 - Volume 4, Issue 3)." Government of Canada, National Defence, Royal Canadian Air Force. January 12, 2016. Accessed May 08, 2017. <http://www.rcaf-arc.forces.gc.ca/en/cf-aerospace-warfare-centre/elibrary/journal/2015-vol4-iss3-07-the-positive-psychological-effect-of-air-power.page>.

Conclusion

IW is the new concept of modern warfare adopted by state and non-state player and airpower have to adapt with new change for its classic conventional projection of its capability. Air power has accumulate the requirement of small war and sustaining them. Started with challenges from collateral damage in civilian with maintain and maintain kinetic effect legitimacy then how IW is attrition warfare even for the airpower and last challenge was the political challenges in applying the airpower. Then from that took the lesson learns from last war and how these lesson are important in IW. Finally taking UAE air force in Yemen as experiment for small air force how it used the Joint operation with special forces to achieve their strategical and operational goals. Airpower used to shape the battle field in Aden but at the same time supported the Yemeni troops. Marab battle attrition from both sides but in the end psychological effect of kinetic was the key to win the battle with less casualties. Almukalla Battle was all about wining hearts and minds, from decisive air strikes logistical supply to for positive effect and in the end minimum boots in the ground supporting legitimacy of the Yemeni government. In the end UAE AF did successes in Yemen war but they faced many challenges and the suggestion to enhance their capability is ISR platform capable if locating sophisticated threats like TBM, using the artificial intelligence is surveillance and locating in identifying threats to minimize targeting cycle finally combining airpower kinetic and non-kinetic effect with cyber warfare to get the best result. Last airpower and IW is battle of ideas and innovation both will try to lead the other.

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