

阿富汗作戰之聯合火力運用

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提要》》

- 一、美軍在阿富汗進行的反叛亂作戰,基本上處於以點制面之不對稱作戰型 態,正是驗證多年來美軍推動「軍事事務革命」及「軍隊轉型」成果的重 要觀察點。美軍極重視在實戰中經驗教訓的彙整,且能將經驗教訓迅速反 映在裝備整備及教育訓練上,第一線部隊更能立即隨之在戰術運用上作相 應調整,故能勝敵益強。
- 二、在阿富汗的不對稱作戰環境下,美軍學習到鞏固地方治理,爭取民心是 其減少傷亡,其至脫離「越戰泥淖」夢屬的唯一道路。故咸認以「地方綏 靖」的懷柔作為,比真槍實彈更有效。此等懷柔作為在本文中稱之為「間 接路線」,甚至將其視之為「非殺傷性火力」,而與「傳統性火力」並列 為剛柔並濟的作戰手段。
- 三、由於阿富汗戰場地形複雜,戰鬥地境幅員遼闊,傳統火力之運用上,部署 與運用都必須因地制宜,尤其著重於聯合火力之運用。然而任何誤擊平民 事件,都將使原本對其不利的作戰環境更形惡化,因此特別引進新科技, 整合陸空視訊,確保射擊安全與火力效果。
- 四、在不對稱作戰環境下,美軍的優勢在於其擁有的高科技裝備能充分發揮戰 力,聯合火力之運用需要跨軍種裝備之「互通性」與綿密即時之協調。本 文顯示其聯合作戰不但有先進之科技裝備,而且敢於跳脫準則肆應戰場。

前 言

Joint Fires lessons are critical to the success of our Army's ongoing operations in the contemporary operating environment. The joint Fires assets and units in this article detail how Fires is an essential partner and an enabler to maneuver units. The basis of this article was my experiences as the battalion commander for 2nd Battalion, 506th Infantry /Team Paktika East, which was operating as part of the 4th Brigade Combat Team, 101st Airborne Division (Currahee), in Paktika Province, Afghanistan, July 2008 through March 2009. Team Paktika East consisted of joint forces, who were deployed over 10,000 square kilometers. They served on twelve outpost/observation posts, as well as along a 240-kilometer section of the Afghan-Pakistan border.

美軍在現代作戰環境中,聯合火力運用有關的經驗教訓最為寶貴,本文中所提及的聯合火力裝備及部隊,都是戰鬥部隊最佳的作戰伙伴,同時也是戰力得以增強的主要因素。本文是作者擔任巴提卡省(Paktika)東區506步兵戰鬥隊第2營營長期間的作戰經驗所撰寫。

本營隸屬於第101空降師第4旅戰鬥隊之一部;2008年7月至2009年3月,旅戰鬥隊駐守於阿富汗巴提卡省。巴提卡省東區步兵戰鬥隊為一支聯合部隊,部署於廣達10,000平方公里區域,與巴基斯坦接壤邊境長達240公里,其中有12處哨所及觀測所。

Our area of responsibility included terrain ranging from high-desert plains to mountains up to 10,000 feet in altitude. Movement between outposts included distances and a terrain that could only be traversed in hours - not minutes. Employing joint Fires was the primary way our task force could rapidly influence the tactical situation for units who experienced enemy contact across this dispersed area of responsibility

本營責任區內地形從地勢高聳的沙漠平原,到標高達10,000呎的山區。各哨所間相隔數小時車程,非即時可達。戰鬥隊因應各部隊嚴重分散現況,一旦發生任何之戰況,欲迅速左右戰局,非運用聯合火力不為功。

The risks of employing large caliber, joint munitions while fighting a counterinsurgency in a sovereign country are many. Paramount to success in counterinsurgency tactics is the staff's and commanders' ongoing assessment of risk versus reward of joint Fires use, and mitigation of civilian casualties. A commander must always explore all nonlethal means to effect and influence the enemy.

在一個主權獨立的國家裏,以大口徑砲彈或聯合彈藥進行反叛亂作戰,具有相當大風險。欲贏得全面勝利,指揮官及參謀必須對聯合火力之運用做正確的風險評估,優先採用「非殺傷性」手段,儘量避免傷及平民,又能對敵人產生最大效果及影響力。

We found that often these nonlethal effects were more powerful in accomplishing our objectives, pursuing the lines of effort of governance and development, and were the focus of most of the battalion's operations. When a unit leader estimated he could not handle then fight with organic assets, aerial and indirect fires were often the only enablers available to quickly tip the balance in the favor of coalition forces.

我們發現,非致命性手段所產生的效果,往往更有利於達成作戰目標,更能強化地方治理,因而成為本營重要之作戰方式。但是當任何一名部隊指揮官評估其建制武器無法控制狀況之時,空中及曲射火力將是迅速扭轉乾坤的唯一手段。



The danger of misapplication of joint Fires use is the loss of support of the indigenous population through collateral damage. Even with careful and precise consequence management, these failures will rapidly compromise whatever progress a unit has made in its area of responsibility. Also, the potential corrosion of Soldier and leader morale after inflicting collateral damage cannot be understated.

運用聯合火力時,即便極其小心地與精準地實施「射效控管」,一旦稍有不慎發生誤擊狀況, 對民眾產生任何傷害,勢必招致民怨而頓失民心,部隊在其責任區內所作的任何努力都將徒然;同 時,任何誤擊事件對部隊指揮官及官兵的十氣都會造成鉅大的傷害。

Mission assets 任務資源

Tools that enabled us to rapidly employ joint Fires while minimizing collateral damage were Remotely Operated Video Receivers and sniper Advanced Targeting Pods. During our units' deployment to Afghanistan, sniper ATPs were mounted on all U.S. close air support-designated aircraft. The battalion also received additional ROVERs to support company-level units upon arrival to Afghanistan. The Sniper ATP transmitted to the ROVER the same high magnification images as seen in the CAS cockpits, allowing the battalion operations center, company command posts, and CAS pilots access to the same information and promoting situational understanding across multiple echelons of leaders. This enabled more precise and safer employment of precision munitions against insurgents.

本營在阿富汗作戰期間,讓我們得以迅速運用聯合火力,同時又能降低對民眾產生之附帶損 害,主要仰賴「遠端視訊接收器」(Remotely Operated Video Receivers, Rover)及「先進狙擊標定 茭艙」(Sniper Advanced Targeting Pods, ATP)兩項裝備。所有擔任密接支援任務的飛機均掛載ATP **荧艙**,同時本營及各連抵達阿富汗後,即接收超編的遠端視訊接收器支援連級部隊之作戰。機載 ATP莢艙將其高畫質影像傳送至接收器,使營作戰中心、連指揮所及密支飛機飛行員座艙,能同時 接收到相同之視訊。各階層指揮官運用精準彈藥對付叛亂分子時,能同步瞭解狀況,使任務執行更 加安全而精準。

Signals intelligence-cuing also played an important role in the battalion's joint Fires employment. Various off-the-shelf unclassified signals collection devices such as commercial FM radio scanners enhanced the units' situational awareness down to the platoon level. This allowed preemptive use of joint Fires to destroy enemy forces before they initiated contact where friendly forces could not execute direct fire and maneuver effectively: such as an enemy in ambush positions where steep and rough terrain prevented friendly forces from effectively and quickly flanking; insurgents moving into position to set up indirect fire systems multiple kilometers distant from coalition outposts. All Signals intelligence-cued Fires also included a hasty analysis of targets considering factors like: proximity of historic firing points and ambush positions; comparison to established patterns of enemy activity; use of a lexicon of enemy code words and phrases to better underst and our opponents' intents; proximity to known or observed civilian population concentrations; and always observation of target area to positively identify enemy and preclude killing of civilians.

「信號情報」之傳輸提供營的聯合火力運用,極重要的火力引導功能。各種現成的非機密信號 蒐集設備,如商用調頻掃瞄儀等,狀況掌握之能力可下至排級,使部隊能進行快速目標分析,在與

敵接觸之前,即可運用聯合火力擊滅敵軍。經由信號情報可以判斷出:(一)敵阻止友軍側翼包圍之陡峭與困難地形之伏擊位置與曾經射擊過目標之間的關係(譯註:可以該目標作已知點轉移,並使用相同修正量,迅速發揚火力);(二)敵活動模式之比較;(三)解讀敵有價值之慣用密語;(四)目標與民眾慣常聚集位置之近接狀況;(四)目標區之平民與恐怖分子之區隔。一旦確認敵之設伏位置在我直射武器無法發揚火力的險峻地形、或在友軍哨所建制武器射程之外設立多人操作武器陣地時,即可在敵人未克採取行動之前,以聯合火力先期予以消滅。

Applying joint Fires 聯合火力運用

A critical aid in the application of joint Fires was the Precision-Strike Suite Special Operations Force software. This application graphically portrayed weapons effects on overhead imagery for the target grids of indirect fire missions. The ability to understand weapons effects, in relation to the terrain, by the unit's leadership facilitated the rapid employment of joint Fires in support of units receiving contact. On-scene commanders may not have been able to see across the highly-varied terrain of Afghanistan for nearby villages at all times, though they may have seen their intended targets clearly. PSS-SOF, in combination with other overhead imagery, enhanced the battalion's ability to mitigate and prevent civilian casualties, which was a vital and essential measure needed for the confident and timely application of joint Fires in the current operating environment.

另一項運用聯合火力的重要幫手,是「特戰部隊精準打擊軟體」(Precision-Strike Suite Special Operations Force software, PSS-SOF),該軟體可以在運用曲射火力時將實際之火力涵蓋套印在目標方格座標上。部隊指揮階層充分瞭解地形對火力涵蓋的實際狀況,有助於有效地迅速以聯合火力支援與敵接觸中的部隊。在阿富汗由於複雜地形阻隔,現地指揮官即便能看見目標,卻未必都能看得見附近的村莊,透過PSS-SOF加上其他垂直視訊,可以防止火力傷及平民,這是在當前作戰環境下,發揚即時而精準的聯合火力所必須的條件。

One of the most important actions a task force commander may take to ensure timely and accurate joint Fires is giving clear guidance to subordinate leaders. The first step in this process is a frank discussion with the next highest senior commander of what you are both comfortable with, such as levels of authority for release of different types of munitions, and under what conditions are they used. Once I had this guidance, I published it in the simplest format possible and ensured my subordinate leaders also understood.

戰鬥隊指揮官最重要的工作之一,是對下級幹部下達適時又明確的指導。故應先與頂頭之上級 懇切討論,以獲致彼此對下列狀況的共識:不同類型彈藥之運用權責,何種狀況下可以由下級自行 採取權宜措施等。一經獲得共識,立即以最簡單的格式向下級發布,並確認所有下級指揮官都充分 瞭解。

Ensuring timely and accurate Fires 確保火力即時而精確

The battalion and company command posts, exercised Fires clearance drills and perfected mediums for passing Fires mission requests and resulting Fires orders. Due to



the nondoctrinal dispersion of our artillery (four, two gun-platoons and Fires directions centers at four outposts) and a resulting shortage of communications platforms, our unit used Mardam-Bey internet relay chat to distribute information from the Advanced Field Artillery Tactical Data System. We also generated fire orders that were simultaneously observed by sender and receiver which facilitated situational awareness amongst three echelons of the command.

本營之營、連指揮所,經常實施「火力淨空」操演,並不斷改進傳送射擊要求及射擊任務的 平台。由於本營陣地極度分散,屬於極不正規之部署形式(以兩門砲編成一個戰砲排,其中有四個 排之放列陣地與排射擊指揮所設置於四個外圍哨所),建制通信平台無法滿足實際所需。故營以 「先進戰術射擊指揮儀」(Advanced Field Artillery Tactical Data System, AFATDS)之「會談網路」 (Mardam-Bey internet relay chat)來傳送情資。所有射擊命令同時傳送給射擊任務發起人與接收 人,以增强三個指揮階層的狀況掌控能力。

An effective method of joint Fires employment is teaming of multiple assets, specifically unmanned aerial systems, indirect fire systems and fixed-wing close air support sorties as part of an enhanced joint air attack. One example of our battalion employing JAAT was at a periodic daytime insurgent checkpoint, which had been identified by multiple human intelligence sources as suspicious. At this unlawful checkpoint, located halfway between the battalion FOB and our Alpha Company COP, Afghan civilians were harassed by and forced to pay tolls to local insurgents. Mounted and dismounted ground patrols had not caught the AAF checkpoint in action due to the enemy's early warning system, established in the surrounding sympathetic tribes (specifically the Zadran Tribe, which was the parent tribe of the Haquani's insurgent network) who lived in the area.

聯合火力運用最有效的方法之一,就是組合各種資源之綜合運用,特別是以無人飛行載具、曲 射武器系統及空中密接支援架次,三種火力資源的結合所實施之「聯合空中攻擊」(joint air attack, JAAT)。本營採取JAAT的一個戰例,是用於一個經由多項人員情報(譯注:類似戰場諜報)判定 的叛亂分子定期晝間檢查哨。該非法檢查哨位於營協調點與第1連戰鬥前哨之中央,檢查阿富汗民 眾來往車輛,並掠奪財物。但由於附近居民多屬同情恐怖組織的Zadran部落,我方任何車巡或步巡 一經出動,檢查哨立即獲得預警而撤離,故一直未能捕獲任何現行犯。

To counter the AAF early warning system, we employed a Shadow UAS to observe the area of interest designated for the checkpoint. The UAS ground station and operators were co-located with our operations center. After several missions, the Shadow spotted a platoon-sized element of suspected insurgents, not in uniform, armed with multiple crew-served weapons, stopping civilian vehicles and taking goods and money from them. Once we confirmed that our Company A and their collocated Afghan national army and police counterparts were not patrolling in that area, we positively confirmed enemy activity.

為了克服恐怖分子的早期預警系統,我們運用「陰影」(Shadow)無人載具,持續監視該檢 查站的周邊地區。無人載具的地面控制站和營作戰中心同步作業。經過多次飛行任務後,終於發現 該處約有一排兵力之疑似叛亂分子,穿著平民服裝,配置多人操作武器,正在控制來往車輛,並劫 掠財物。營指揮所首先確認本營所屬之第1連及附近的阿富汗國民軍與當地警察單位,並未在該區 域有巡邏活動,因此確認這是恐怖分子所為。

ARMYBIMONTHLY

As we knew from experience, a ground patrol could not get to the checkpoint with the element of surprise. In response to observing the insurgent activity we executed the following: alerted the nearest outpost with indirect fire assets that could range the target (Company B with its two, 155 mm M198 howitzers); the battalion Fires cell and Joint Terminal Attack Controllers coordinated the airspace above the target to maintain UAS observation, flight of the 155's rocket-assisted projectiles, and ingress of CAS (two F-15s aircraft).

經驗告訴我們,地面部隊是無法在不被發現的狀況下接近該檢查哨。針對觀察到的敵情,本營作如下處理:通知在射程內之最近哨所之曲射火力(第2連之兩門155 mm M198榴砲)備便;營火協小組(Fires cell)向「聯合終端攻擊管制員」(Joint Terminal Attack Controllers, JTAC)協調目標區空域,保持無人載具對目標之持續監控,同時要求允許155公厘火箭增程彈之射擊及密接支援架次(F-15×2)自由進出目標區。

While waiting for the civilian vehicle traffic to clear the target area, with sufficient space to prevent collateral damage, Task Force JTAC oriented F-15 pilots to the target area. Critical to maintaining the element of surprise was keeping the UAS and the CAS assets far enough away in altitude and range from the target, to ensure their engine sounds would not alert the enemy, and yet close enough for their respective optics to maintain continuous surveillance of the objective.

為了獲得奇襲效果,初期無人載具及密支飛機以其引擎聲音不為敵人發現,又能維持其機載光 學儀器能持續監控目標為準,與目標區保持適當之距離與高度。等到民車陸續離開目標區,而且有 足夠區隔空間,不致在攻擊時受到波及之時,戰鬥隊之聯合終端攻擊管制員立即將目標交付F-15飛 行員。

More important was the co-location of the UAS operators with the battalion operations center, providing real-time views of the target area from the perspective of the F-15 pilots (through ROVER) and the UAS (through the ground station). After a hasty analysis of the terrain and weapons effects with PSS-SOF, we initiated the attack with an immediate suppression fire mission to fix the enemy. This was immediately followed by each of the F-15s hitting the target in succession with their 20 mm cannons. Within the next 24 hours, we received confirmation, through human intelligence, we had killed eight enemy fighters and severely wounded an additional 22 insurgents. The effects of this joint Fires application, deterring enemy recruitment and action in the area, resulted in no additional, unlawful checkpoints or other overt actions, for more than a month after the engagement.

更重要的是無人載具操作員將接收裝備移至營作戰中心內,使中心能同時看到從F-15(透過莢艙)及無人載具(經由地面站台)傳回的即時目標視訊。經由PSS-SOF軟體迅速分析目標區地形及射擊能力。我們先以火力制壓敵防空火力後,兩架F-15隨即進入,以其20mm機砲攻擊目標。該任務結束不到24小時,經由人員情報確認擊斃叛亂分子8人、重傷22人。由於聯合火力運用的奏效,嚇阻了叛亂分子在該地區招募兵員,檢查哨的非法活動也停歇了至少一個月。

Lessons learned 經驗教訓



We took several lessons learned away from this action, learning first-hand that one of the benefits of full-time partnering with the indigenous security forces to include rapid clearance of fires. The synergy we created, by teaming our assets, allowed us to circumvent the great advantages our enemies' had in our current operating environment.

從此次行動中,我們得到若干經驗教訓。學習到如何全程與當地安全部隊充分合作,迅速完成 「火力淨空」條件。同時學到如何適切整合可用火力,在當前對敵有利的作戰環境下克敵制勝。

Later in our deployment, we had another success when our task force coordinated CAS and rotary wing attack aviation teaming in response to an enemy, 80-plus personnel attack on a platoon combat outpost. The COP sat on a high bluff overlooking a large, two-village complex agricultural area, which was also located at the western exit of a major insurgent infiltration route, reaching all the way back to insurgent base areas in Pakistan's autonomous border tribal areas. One of the major tribes located in the valley was sympathetic to the insurgency, but the COP location enabled the battalion to disrupt infiltration in this area.

其後,在空中密支飛機及陸航攻擊直升機聯合支援下,又一次擊潰80餘敵對本營某一排戰鬥前 哨之攻擊。該戰鬥前哨位於一居高臨下,瞰制有兩座村莊其間的大片農地。該哨所的位置,可控制 叛亂分子從巴基斯坦邊境部落自治區內的基地,向西滲透之進出孔道,故極為重要。居住於戰鬥前 哨山腳下其中一個部落,傾向於叛軍。

Shortly before midnight, the platoon located at the COP spotted movement into the bazaar west of the outpost, as well as on a hill one kilometer to the north. The platoon executed a stand-to and alerted the Charlie Company commander at the FOB, which was located 25 kilometers to the south. The commander then alerted his 1st platoon in case he needed a quick-reaction force, and requested through the battalion operations center CAS and an air weapons team (which included two AH-64 Apache helicopters).

午夜直前,排戰鬥前哨發現哨所以東有人向市集移動,同時北方1公里處的山頭亦出現人蹤。 排立即就戰鬥位置,並向第3連連長報告。該連連部位於哨所南方25公里的前進作戰基地。連長乃 預令第1排,必要時準備迅速增援該哨所,並向營作戰中心要求空中密接支援及空中火力組(AH-64×2) 支援。

Shortly after these actions, the enemy opened fire from five support-by-fire positions which were located on a large hill to the north, and arrayed on the west and on the south of the COP. From their positions, the platoon leader assessed the enemy was attempting to suppress the crew-served weapons located on the COP, while the insurgents executed an infiltration attack on the COP from a deep wadis (a dry streambed) located 1,900 meters to the northeast. The COP's 120 mm mortar fired two rounds and destroyed the enemy crew-served weapon firing from the north; the most dangerous of the enemy's supportby-fire positions.

上述動作完成不久,敵就在火力支援下,從哨所南方一座大山丘北麓由東向西延伸的五個陣 地,向我猛烈射擊。排長判斷敵企圖先行制壓我之多人操作武器,掩護其主力沿東北方距戰鬥前哨 約1,900公尺處之乾溝,對陣地行滲透攻擊。於是該排之120mm迫砲發射兩群,消滅敵位於北方對我 危害最大之多人操作武器。

The platoon effectively suppressed the other positions with a combination of crew-served and small-arms direct fire, and then the enemy attempted to break contact. While the enemy shifted into the large river wadis located between the village complexes, the platoon used their Tube- Launched, Optically-Tracked, Wireless- Guided Improved Acquisition Systems to maintain continuous positive identification of the insurgents and orient two A-10s onto the enemy. The battalion operations center observed the A-10s' efforts through the Sniper ATP-ROVER medium to line up for a strafing attack on the retreating insurgents. However, to avoid damage to Afghan homes and civilians, we ordered the CAS sortie to high orbit to maintain observation and PID of the retreating insurgents, until the inbound AWT could be oriented to the target.

繼以其建制多人與輕兵器直射武器有效制壓其餘敵火,於是敵向一條位於村落家屋之間的大河谷轉移,企圖脫離戰鬥。該排乃使用「拖式飛彈改良目獲系統」(Tube- Launched, Optically-Tracked, Wireless- Guided Improved Acquisition Systems)監視敵蹤,並引導兩架A-10密支飛機進入目標區。營作戰中心透過「ATP狙擊系統」協助A-10密支飛機標定退卻之敵。同時為了避免傷及民戶,我們命令密支飛機保持較高飛行高度負責監視敵人,並引導空中火力組之攻擊直升機攻擊。

After the AWT arrived and received an orientation to the terrain and situation, we task organized one AH-64 and one A-10 per team. Originally in a 21-man element, the insurgents, who had broken into four groups, were then tracked by the A-10s' lasers, which designated and guided the AH-64s into position. By early morning, the two aerial teams had tracked and destroyed all the insurgents with the AH-64 30mm cannon fire. The AH-64 was the best system to finish mission in order to mitigate collateral damage. Charlie Company launched a patrol at first light and found multiple destroyed weapons and equipment in the various locations where the AH-64s had engaged the enemy.

空中火力組抵達,接受方向、地形及狀況指示後,我們將AH-64與A-10各一架編為一組。原為21人的叛亂分子,現分成四股逃竄,均為A-10密支機之雷射鎖定,並導引AH-64進入攻擊位置。始曉前,兩組空中火力都以AH-64直升機的30mm機砲實施攻擊,AH-64是既能達成任務,又可避免產生不必要損害的最佳選擇。清晨時,第3連派出搜索組,發現AH-64攻擊目標有多處遭摧毀之多人操作武器殘骸。

Teaching points 學習要點

This action offered us multiple teaching points and lessons learned such as a sound defensive preparation and good observation plans, conducted by the platoon ensured the outpost would not be overrun. The platoon's skilled use of observation and marking devices also proved critical in maintaining positive identification of the enemy. There was also effective battle target hand-offs from observers to shooters, facilitated by the platoon leader, company commander, JTAC and aircrews, of the rotary fixed-wing aircraft. All the actions that night ensured no identified enemy escaped.

這一行動為我們提供了數個學習要點和經驗教訓,如完善的防禦計畫及良好之觀測計畫,是一名進駐外哨的排長確保其陣地完整所必須,排對各種觀測及標定裝備之熟練操作,是能正確持續掌控敵蹤的關鍵。基於排長、連長、聯合終端攻擊管制員、旋翼機、定翼機飛行員之共同努力,使得



目標情報能迅速從觀測者傳送至射擊者,當晚所有行動都讓敵人無可遁逃。

Tools and asset accessibility 裝備及資源之取得

Most of the tools detailed in this article have recently become available to echelons below brigade in the current conflict. As counterinsurgency is a bottom-up fight, it is essential to push these assets down with the proper subject-matter experts and help junior leaders employ them.

本文所敘述的各項裝備,最近均已配發至戰區內各旅級以下部隊。由於反叛亂是一項由下而上 的作戰方式,裝備及受過訓練的專業人員,應推至最低階層,所有新進幹部都應同時接受訓練,以 熟稔其操作與運用。

Critical to successful use of all these tools is knowledge, of available capabilities and training assets. Armed with this knowledge, ground commanders may successfully employ joint Fires in a non-linear, noncontiguous environment against insurgents in a highly-restrictive terrain. Also significant to the employment of all these assets is the first element of battle command: airspace command and control, AOR situational understanding, which in turn enables airspace control; positive identification of the enemy, and observation of Fires. Most importantly, the battalion commander in charge, of a specific area of operation, must give clear guidance that enables the appropriate, timely, and effective use of joint Fires. Through intent-based orders, a battalion commander empowers subordinate leaders to maximize their creativity and initiative within the commander's intent. For all the successful operations detailed in this article I give full credit to the subordinate leaders and staff on our team who enabled and executed them.

這些裝備成功運用的關鍵,乃是對各種可用戰力與訓練設施的充分瞭解,有了這些知識,地 面部隊指揮官就可以在非線性、非接觸性的作戰環境下,在複雜地形中充分發揚聯合火力。第一線 部隊必須能充分運用空域指管、空域管制運作狀況之掌握、正確辨識敵人、火力觀測等各種資源之 運用。負責某一作戰正面的營長更應下達明確的作戰指導,使聯合火力之運用更能適切、即時與有 效。營長透過「企圖式命令」(譯注:較「任務式命令」給予下級部隊之自由度更大)鼓勵下屬在 命令所示之企圖範圍內,充分發揮創意與主動作為。本文所述之所有作戰細節,我給我所屬的排、 連長及全體幕僚都打了滿分,因為有他們方能圓滿完成此次的海外輪調任務。

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