THE ROLE OF AIRPOWER IN PROVIDING TACTICAL MOBILITY
IN PAST COIN OPERATIONS

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FOREWORD

Looking back at our operation, the thing that we contributed most to the campaign was not close air support. It was mobility. We gave three-dimensional mobility to an army that previously had barely had two-dimensional mobility in the worst kind of terrain. Operations that would have required several months, we were able to do in several days.

--Major General John R. Alison, USAFR
(deputy commander of 1st Air Commandos
during Burma Chindit operation)—
RM-3654-PR, p. 43.

*This Paper is based on material previously reported in The RAND Corporation Memoranda RM-3651-PR, RM-3652-PR, RM-3653-PR, RM-3654-PR, RM-3655-PR, and RM-3656-PR. Any views or conclusions contained herein are those of the author. They should not be interpreted as reflecting the views of The RAND Corporation or the official opinion or policy of any of its governmental or private research sponsors. Papers are reproduced by The RAND Corporation as a courtesy to members of its staff.
I. INTRODUCTION

The information in this paper is abstracted from that developed in an unclassified symposium: "The Role of Airpower in Counterinsurgency and Unconventional Warfare," held at the RAND Washington Office, 14-18 January 1963.

The objectives of the symposium were to collect relevant, detailed background information from examples of past counterinsurgency and unconventional warfare campaigns and to identify subjects suitable for further research. It was expected that such information, examined with the environments of those past campaigns firmly in mind, would suggest lessons for current and future air operations and, when considered within the context of advanced technology, could provide guidance for future planning and hardware development. The symposium was not intended in any sense as a means of appraising current operations in South Vietnam or elsewhere.

The symposium comprised a series of informal discussions among men experienced in these types of warfare. Those participating were 19 air and ground officers from Australia, France, the Republic of the Philippines, and The United Kingdom, together with 14 military officers from the United States and six people from RAND. From 16 to 23 people took part each day.

Edited versions of the discussions on the different campaigns are published in the following Memoranda:

Symposium on the Role of Airpower in Counterinsurgency and Unconventional Warfare:

The Malayan Emergency, RM-3651-PR
The Philippine Huk Campaign, RM-3652-PR
The Algerian War, RM-3653-PR
Chindit Operations in Burma, RM-3654-PR
Allied Resistance to the Japanese on Luzon, World War II, RM-3655-PR
Unconventional Warfare in the Mediterranean Theater, RM-3656-PR

As background for the subsequent comments on airpower, we first offer a short paragraph on each of the campaigns.

In Malaya the British fought a successful 12-year campaign to rid the then-incipient Malayan Republic of the Chinese terrorists, who had almost wrecked the economy of the countryside. The campaign was led by a civilian High Commissioner with an outstanding military record, General Sir Gerald Templer, and featured carefully integrated civil and military elements that were effective against the insurgents and that had the support of the people.
In the eradication of the Hukbalahaps from Luzon, the support of the people was again a key factor, but one that was lacking in the early part of the campaign. Coinciding roughly with Ramon Magsaysay's assumption of control as the Philippine Defense Secretary, the suppression campaign began to gain popular support and to become effective. Four years later, the Huk threat had disappeared.

In the Algerian War, an effective military operation defeated the insurgents but was followed by political negotiations that resulted in Algeria's independence. An important element in this campaign was the maintenance of a successful barrier to troops, weapons, and supplies from immediately outside Algeria.

The Chindits, General Orde Wingate's forces operating behind Japanese lines in Burma, were delivered, supplied, and otherwise supported by the Number 1 Air Commando Group of the U.S. Army Air Force. This campaign demonstrated the very great utility that airpower can have in unconventional warfare.

The American-led Philippine Resistance forces on Luzon during the Japanese occupation fought a very unorthodox war that, until liberation forces appeared, was without airpower. However, these unconventional forces made very good use of air support when it did become available.

Airpower played vital roles in three types of unconventional warfare in the Mediterranean Theater in World War II. Airdrops to underground elements, supplies and assistance to the French Maquis, and liaison with the Yugoslav Partisans all made unusual demands on airpower, which were filled by sometimes unorthodox use of airpower.
II. ROLES OF AIRPOWER

In the campaigns examined by the symposium, the roles of airpower were mixed in kind and in order of importance. Perhaps the most frequent role was that of transport. Close air support generally was handicapped in applications, but was used very effectively on occasion, as in Algeria, for instance. Reconnaissance proved useful generally, and was in some situations developed to a high level of skill and effectiveness. There were few situations that required interdiction by airpower, although in Algeria only the "barrages" or fences, reinforced by air and ground units, made it unnecessary. Psychological warfare operations were frequently used in some campaigns, usually in conjunction with civil authorities. The counterair role was crucial to subsequent transport operations in the Burma Chindit campaign. Similarly, USAAF destruction of Japanese airpower in Luzon was essential to the success of Philippine Resistance forces in the liberation. Air defense did not figure materially in any of the campaigns.

Probably the greatest contribution of airpower in the campaigns discussed during the symposium was the mobility it provided ground forces: transport of troops, relatively unfatigued, over unfavorable or impenetrable terrain; resupply of ground units where surface lines of communication were long, unreliable, or nonexistent; swift evacuation of sick and wounded from combat areas. In addition, more important than it might seem, air transportation enabled leaders (civilian as well as military) to visit, inspect, and hearten remote troop outposts and civilian settlements.

Fixed wing aircraft provided the most dependable and effective air lift, in areas where suitable airstrips could be provided. Helicopters extended this transport capability into areas where the fixed wing aircraft could not land. In all campaigns, military commanders employed both types when available.

Transport missions in Malaya were prime examples of the joint action required of air-ground operations. Army requests for missions went to the JOC at Kuala Lumpur. All transport aircraft, except the Army Austers, were located at that base, also the site for the Royal Army Service Corps, who packed the supplies. Ground patrols, picked up at airfields or sites accessible to vehicles to minimize helicopter flights, were transported by air to their patrol areas where they were dropped or, if possible, landed. They were picked up again days or weeks later, as the tactical situation required.

For supply drop missions, the Army loaded 200-lb packs aboard C-47 aircraft. One airplane load often was distributed to several drop zones, selected and prepared by the ground units. Small frequent, rather than large occasional, drops were generally made to patrols, who had to carry on their backs whatever they received.

Upon arrival over the drop zone, pilots worked out suitable flight paths to make delivery and climb out from the target. Drops averaged 200 feet above the jungle canopy, often with the surrounding terrain high above the delivery aircraft. Drop sites varied from a large, open space to only a marker balloon.

To avoid disclosing the positions of ground patrols, air supply missions followed ostensibly routine flight paths, then dropped personnel and supplies without altering these routes. Deception of this sort was necessary to deny information to the enemy.
The ideal aircraft for these supply drop missions was stated to be a C-47 with a Plexiglas nose and central rear delivery door for greater accuracy in air drops; better forward and down visibility for pilots; and more powerful engines to provide a better rate of climb and a small turn radius. The larger four-engined Beverley transport was found unsuitable, as it was unable to get down into small valleys, make a drop, and climb out.

Small STOL aircraft were invaluable for personnel transport, small supply missions, and, wherever airstrips of about 200 yards or longer could be provided, for casualty evacuation. Jungle outposts among the aborigines, manned by police, were entirely sustained by this means.

Helicopters were used for personnel transport, supply delivery, evacuation of casualties, and recovery of patrols from small jungle clearings or other places where fixed wing aircraft could not land. A medium size helicopter, capacity up to about 20 people, was recommended, provided it could use comparatively small clearings. Larger helicopters were regarded as requiring too much work in preparing clearings. Parachute jumps into uncleared jungle was occasionally accomplished with abseil gear, a large bundle of webbing which would catch in the jungle canopy and allow the parachutist to let himself down to the ground.

Air transport operations in the Huk campaign resembled those in Malaya, but on a much smaller scale and with one unique addition. That was the use of small liaison aircraft by Secretary of Defense Magsaysay to make many informal surprise inspection visits to remote locations. In this way he ascertained the true state of affairs in the field and demonstrated his interest—as a senior government official—to the common soldier and citizen. This proved an effective way to raise military and civilian morale while enhancing Magsaysay's influence among stay-at-home cabinet ministers. This campaign demonstrated both the Philippine Air Force's paucity of resources and the remarkable use made of what little was available. For example, two battalion combat teams were supplied by only two L-5 aircraft, yet never missed a meal during a 72-day march through the rugged Sierra Madre.

In Algeria, Noratlas air transports were used extensively under Plan Challe to move the strategic reserve; to deliver alert forces in response to an alarm along the "barrages"; for paratroop operations; and in routine unit movements. Ground patrols in the Sahara Desert to the south often were sustained entirely by air. Helicopters were used alternatively in transport or armed versions. Basic rules for helicopter transport of troops as given by General Y. P. Ezanno,* include:

(1) Follow safe itineraries (e.g., fly over territory held by friendly forces) whenever possible.

(2) Fly high enough to avoid enemy small arms fire. Under Algerian conditions, 1500 feet was adjudged the minimum safe altitude.

The work of Allied Air in the Mediterranean Theater in aiding the F.F.I., Maquis, and Tito was almost entirely an unusual transport operation by heavy bombers. Slightly modified B-17s and B-24s parachuted supply tonnage and special agents

*Commander of 2nd Tactical Air Group in Algeria from 1957 to 1959.
into occupied Europe by night, largely in single plane missions. The bulk of the supplies were dropped in metal containers, 300-600 pound capacity, difficult for the recipients to conceal, or when emptied, to destroy. Combustible plywood is now preferred.

The task most praised by the Partisans in the early summer of 1944 was dispatching shuttle DC-3s to hastily made landing strips, carrying needed equipment and evacuating wounded on the return flight. Until German night fighters inflicted losses that halted the missions, the Allied liaison officers with Tito's forces were subjects of unstinted adulation.

Rebecca-Eureka sets (of dubious utility in mountainous regions) and sometimes, short-range, ground-to-air VHF radios comprised the extent of navigation aids, other than furtive light signals, available to air crews attempting to rendezvous over Resistance-selected drop zones or, more rarely, putting down on crude strips.

In contrast, the United States Armed Forces in the Philippines, North Luzon (USAFIP-NL) had little trouble in obtaining 100 per cent supply by air for two regiments (about 3000 men each) on offensive operations during the liberation campaign. With Japanese airpower shattered, C-47 strips were improved to airfields behind enemy lines. From these impromptu depots, L-5s handled distribution to small units in remote localities. Daylight operations were the rule, not the exception.

Air transportation for the Chindits was one of the largest concentrated operations of its kind, air landing in five days nearly 10,000 men, their equipment, and over a thousand animals, 200 miles into, as Wingate expressed it, "the enemy's guts." The mission had to overcome enemy air opposition, necessitating very close cooperation with friendly combat air. The assault landings used gliders entirely, partly because of shortages in parachute equipment and training, perhaps more due to exaggerated notions of glider capabilities, and, finally, a belief that a considerable number of mules were essential to the assault waves. U.S. Air Commando leaders would have preferred to land the ground spearheads in C-47s, "wheels up" but current criticality of aircraft made that unacceptable.

Heavy, continued fighting by the Long Range Penetration force placed ceaseless demands upon air transport for months after the original airborne task force was put in place. Although the C-47 bore the brunt, the ubiquitous L-5, progenitor of modern STOL aircraft, rendered a major assist by ferrying into hastily improvised landing strips. Also, L-5s made countless free drops of two 200-lb "standard" British drop packs, one from each shackle, at 20 feet or less with accuracies that permitted quick recovery by small ground units even in dense bush country. These missions met the Chindits' day-to-day needs without hampering their mobility.

A mere handful of helicopters, originally intended as test vehicles for Wright Field, won high praise, indicating their potential in a campaign, though they actually brought out only a score of wounded. At the other extreme, RAF Sunderland flying boats called from submarine patrol flew out nearly 600 sick and wounded from Lake Indawgyi in the fourth month of the expedition.

In a broader sense, the role of aircraft in providing tactical mobility can be taken to include other types of air missions such as those in close support
(mobile fire power), reconnaissance, psychological warfare, counterair, etc.

As one illustration, in the discussion of the Algerian War General Ezanno described an outstanding example of close support and transport airpower used in combination with ground forces. The target was a concentration of rebels on a remote plateau of some 10 by 10 kilometers near Saida. Planning and timing were key ingredients. First the air and ground commanders used photo-maps to select assault landing zones, interdiction flight patterns, and approach routes for ground forces. Experience demonstrated that when such a concentration is found, ground forces must not appear prematurely anywhere in the area. Too often the enemy suspect the impending trap and disperse before the attack. Instead, ground assault forces should be staged at air bases some distance away and air transported for a closely coordinated attack.

The first sign of the attack to the enemy was the simultaneous clearing of snipers and other sources of enemy ground fire from helicopter landing zones sites by fighter-bomber and light bomber strikes and the presence of attack aircraft circling above to isolate the area. Anyone attempting to escape was strafed by these patrolling attack aircraft.

Within two minutes of bombing the landing zones, the first wave of helicopters landed assault troops, accompanied by armed helicopters providing very close air support.

Armed helicopters attacked enemy forces in those locations within or near the landing areas that could not be reached by fixed wing aircraft because of natural protection or of nearness to friendly troops. Subsequent waves of assault troops were brought in by helicopters. Helicopters not required to transport further troops were quickly armed with cannon and rockets and returned for close support duty.

Other troops, moving in ground vehicles from their bases, upon arrival took positions on the perimeter, relieving the orbiting aircraft. With the area sealed off the troops moved in toward the center while the assault troops inside expanded their areas outward. Attack aircraft were kept continuously on station overhead for close air support.

General Ezanno emphasized five tactical points for such operations:

1. Selection of the target area and locations of helicopter landing zones are joint decisions for ground and air planners, working from good photos and maps of the area.

2. Permit no movement of ground forces in the area before the attack.

3. Landing zones must be hit by fighter bombers or light bombers, with VT-fuzed or cluster bombs until a minimum interval—about two minutes—before troop carriers arrive.

4. Assault troops delivered by helicopters into the middle of the area need very close support by armed helicopters during the landing and initial expansion of their positions.
(5) Attack aircraft must be immediately available for air support as required.

The French armed helicopters with 20-mm cannon, SS-10 or SS-11 guided rockets, and light machine guns. Thick nylon plating protected pilot and engine. The normal arrangement of one armed helicopter in five could be changed quickly as the situation demanded. The most effective armed helicopter tactic was to stand off and circle about 1500 to 2000 feet above the enemy target, whence the 20-mm cannon was lethal but enemy ground fire ineffective. The tendency of inexperienced helicopter pilots was to close on the target, an unnecessary and dangerous tactic. The 20-mm cannon could be attached or detached in 15 to 20 minutes on the simple vibration-absorbing, side-mounted gun pivot, which allowed effective fire down and to the side as the helicopter orbited. French experience proved that targets are seen predominantly to the sides of the helicopter. An explosive shell with lethal area of the 20-mm armament or larger is required. General Ezanno emphasized that the helicopters are not unduly vulnerable if used correctly.
III. AIRCRAFT CAPABILITIES FOR COUNTERINSURGENCY

Aircraft performance desired for the campaigns discussed in the symposium emphasized the abilities to go low and slow, to loiter in the target areas, to climb and maneuver among mountains and in valleys, and to carry relatively large payloads. High reliability and minimal maintenance requirements were stressed.

Under conditions of past campaigns the preferred type basic transport airplane would be essentially an improved C-47; with increased power for better climb, a Plexiglas nose, better downward visibility for pilots, and centerline delivery door for better accuracy in air drops; and reliable means of communicating directly with small ground units. The need was shown for improved systems for air drop and pick-up of material and personnel.

A second desirable type of transport aircraft would be the small STOL—a successor to the L-5—for supply, personnel, and evacuation missions in areas where short (about 200-yd) strips could be made available.

A third type of valuable transport aircraft would be the medium sized helicopter for delivery of supply and personnel and for evacuation missions in areas where other types cannot land. Great improvements are needed over the reliability and maintenance compared to past experience. The transport helicopter could be adapted to provide very close support of ground forces in special situations. In that role and for particular situations, it would supplement, not compete with, the tactical fighter and bomber aircraft.

An important factor in these past campaigns was the enemy lack of aircraft and effective ground-to-air weapons. As a result, special performance or tactics were not essential for aircraft survival. Nor were aircraft range, take-off and landing capabilities critical since the enemy did not have long range weapons to deny the use of local air bases. However, we need to do some careful thinking about what we would need in the way of aircraft, equipment, and tactics in cases where the enemy has effective systems in the field to oppose our air missions. The U.S. Air Force could take care of enemy air forces and would suppress enemy air defenses, following normal doctrine and training. This would be SOP. The undetermined threat would be from improved individual ground-to-air weapons and tactics employed in the ground combat zone.

We need to consider carefully how we can best use the equipment available today and to determine what is likely to be required for the future in this type of warfare. I feel that the records of these past campaigns contain useful lessons.