Air Power Development:
The Royal Malaysian Air Force Experience

Yap Pak Choy
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Fakulti Sains Kemasyarakatan dan Kemanusiaan
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Bangi

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LIEUTENANT COLONEL YAP PAK CHOY, RMAF

Lieutenant Colonel Yap Pak Choy was born in 1948 and was commissioned in the Royal Malaysian Air Force on 16 February 1967. He is a qualified pilot and has served in a variety of posts in his career. A graduate of the Malaysian Armed Forces Defence College, Lt Col Yap was conferred MA in Strategic and Security studies from the Universiti Kebangsaan Malaysia in 1997. He is married to Mrs Brenda Teh Swee Lan and they have two children.
The Royal Malaysian Air Force has a proud history. It was formed initially as the Royal Malayan Air Force as the period of British colonialism in the region drew to an end. In the intervening period it has progressed from being a support arm of ground forces to a highly professional air force that operates complex, sophisticated weapons systems.

The Royal Australian Air Force has been privileged to work in partnership with the RMAF since its formation, and in the early days many RAAF officers served with pride in its ranks while on loan from their parent Service. An even larger number of Australian servicemen and women served at Air Base Butterworth during the Malayan Emergency, Confrontation with Sukarno’s Indonesia, and development of the Five Power Defence Arrangements (FPDA). The Integrated Air Defence System, which is an integral part of the FPDA, has developed into an important element of the bilateral relationship between Malaysia and Australia.

That partnership has now matured into a spirit of cooperation which is a source of pride, goodwill and mutual understanding between our two nations. We hope that this will continue.

Lieutenant Colonel Yap Pak Choy RMAF has written a history of his Service which the RAAF is proud to be able to publish in cooperation with the Universiti Kebangsaan Malaysia as a bilingual work. It is a fine record of the development of air power in a new nation, and I hope that it will serve as a reminder to future generations that their predecessors achieved a great deal from humble beginnings in the face of adversity.

E.J. McCormack
Air Vice-Marshal
Deputy Chief of Air Force
Air Force Headquarters
Canberra
AUSTRALIA
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Lt. Col. Yap Pak Choy RMAF
Kuala Lumpur 1997
ABSTRACT

Thus far, only cursory studies on the air power development of the Royal Malaysian Air Force (RMAF) are available. Often, these studies are investigated largely from the broad perspectives of the armed forces of the Southeast Asian region. This study attempts to verify the proposition that the air power development of the RMAF has been based on a combination of meeting the needs of an on-going internal security situation and that of one based on threat perceptions. The main thrust of the research concentrates on the variables that have shaped the force structure of the RMAF. This thesis reveals that in its earlier history, the RMAF had solely been developed to fight as part of a counter-insurgency force. This was the outcome of a reactive process that attempted to address the on-going internal security needs of the country. Such ‘reactive’ development was based more on expediency rather than one that was derived from long-term strategic plans. Nevertheless, after the mid-1970s, there was an increasing tendency to base the RMAF’s development on threat perceptions, with a focus on external rather than internal threats. Development was thus more ‘pro-active’ and its air power capabilities were greatly determined by the various concepts of conventional air strategy. This new orientation has effectively transformed it from an air force that played a supportive role in counter-insurgency warfare into a more credible tactical conventional air force that is better suited to fight in limited conventional war.
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ABBREVIATIONS

AAA  Anti Aircraft Artillery
AEW  Airborne Early Warning
ALARM Air Launched Anti-Radiation Missile
AMDA Anglo-Malayan Defence Agreement
ASEAN Association of Southeast Asian Nations
AWACS Airborne Warning and Control System
BAI Battlefield Air Interdiction
BDA Battle Damage Assessment
BVR Beyond Visual Range
CAS Close Air Support
CDF Chief of Defence Force
CIW Counter-Insurgency Warfare
COIN Counter-Insurgency
CPM Communist Party of Malaya
CT Communist Terrorist
DCA Defensive Counter Air
EAEC East Asian Economic Caucus
ECR Electronic Combat Reconnaissance
EEZ Exclusive Economic Zone
FGA Fighter Ground Attack
FPDA Five Power Defence Arrangement
GNP Gross National Product
IAF Indian Air Force
IDS Interdiction Deep Strike
IPTN Industri Pesawat Terbang Nusantara
ISIS Institute of Strategic and - International Studies
KESBAN Keselamatan dan Pembangunan
LC Low Intensity Conflict
LIMA Langkawi International Maritime and Aerospace
MAF Malaysian Armed Forces
MINDEF Ministry of Defence
MSRC Malaysian Strategic Research Centre
MOU Memorandum of Understanding
NATO North Atlantic Treaty Organisation
NKCP North Kalimantan Communist Party
NSC National Security Council
OCA Offensive Counter Air
PAF Philippine Air Force
PBS Parti Bersatu Sabah
PERISTA Perkembangan Istimewa Angkatan Tentera
PGM Precision Guided Munition
PRC People’s Republic of China
RAF Royal Air Force
RAAF Royal Australian Air Force
RASCOM Rejang Area Security Command
RDF       Rapid Deployment Force
RFC       Royal Flying Corps
RM        Ringgit Malaysia
RMAF      Royal Malaysian Air Force
RMN       Royal Malaysian Navy
Rtd       Retired
SAM       Surface-to-air Missile
SEAD      Suppression of Enemy Air Defence
SEATO     Southeast Asian Treaty Organisation
SLOC      Sea Lanes of Communication
STOL      Short Take Off and Landing
TSC       Technical Service Centre
UK        United Kingdom
US        United States of America
UKM       University Kebangsaan Malaysia
UN        United Nations
USAAF      United States Army Air Force
USAF       United States Air Force
VIP        Very Important Person
VTOL      Vertical Take Off and Landing
CHAPTER I

INTRODUCTION

STATEMENT OF PROBLEM

A comparison of air forces will show that no two examples are quite the same in composition, organisation and air power assets. The question of how air forces can best be developed and used in war could lead to many varied answers. Some air forces have been created for use as long range airborne artillery in support of surface forces. Others have been developed as self-sufficient strategic weapons capable of concluding even major wars. Nevertheless, it is conceivable that air force development in most nations, if not all, will remain responsive to their respective national security policy. Among those factors that can influence the development of an air force, the most important are the foreign, economic and defence policies which are the components of a nation's security policy. Apart from these broader influences, the force structure of an air force could also be shaped by other factors. Foremost is the perception of threats, the geography, geopolitical circumstances, defence strategy and doctrine.

Unlike other air forces, air power development in the Royal Malaysian Air Force (RMAF) portrays a pattern peculiar to its political/security imperatives. Although the country has to deal with a mix of internal and external security threats, the air power development of the RMAF was more predisposed initially toward meeting the on-going internal security needs of the nation. There was little semblance of a development reflective of any of the widely recognised concepts of air power application during the period 1958-1970. The many years of emphasis on developing the RMAF toward meeting internal security threats had led to an imbalanced force structure that was greatly biased towards non-lethal roles of air power. Firepower capabilities were grossly lacking and the RMAF was more an air force inclined toward providing air mobility in support of land forces. This was pointed out by the Minister of Defence, Dato' Sri Mohd Najib Tun Razak when he said that,

The genesis of the Malaysian Armed Forces has been very much influenced, and its development driven by the need to meet the communist threat. All available resources were used to combat this menace. This led to a ground-biased development, specifically, an infantry biased development ... As such

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1 For example during the Second World War, the Luftwaffe was structured primarily to support land forces in line with the Blitzkrieg strategy. Japanese air power was structured more to support naval forces while the Royal Air Force (RAF) and the United States Army Air Forces were structured as strategic air forces with a distinct emphasis on strategic bombing. See R. J. Overy, The Air War, 1939-1945, Papermac, Macmillan Publishers Ltd, London, 1987, pp. 6-18.
the development of the Malaysian Armed Forces was imbalanced, with air power being seen as merely supporting land operations.\textsuperscript{2}

This imperfect development has effectively driven it away from the very arena of conflict that an air force ought to face. The RMAF then, was only a force capable of fighting at the low end of the conflict spectrum - specifically in counter-insurgency warfare (CIW) - and was in no position to effectively deter, let alone counter any form of limited external military aggression.

This weakness was being gradually and progressively remedied from the mid-1970s onwards by a shift in development emphasis. Measures were now taken to develop the RMAF along conventional lines with a focus on external threats. Arms procurement was consequently focused on acquiring more firepower capabilities to strengthen the combat power of the RMAF. Surveillance and reconnaissance capabilities were also being introduced to further enhance the conventional posture of the RMAF. The new focus, however, did not completely free the RMAF from the dictates of the CIW as there was still concern over the internal communists' activities. Hence more airlift assets were acquired. The period from 1975-1983 generally witnessed improvement in air support capabilities but with little improvement in the independent roles of air power.\textsuperscript{3} Development in the period from 1975-1983 represented the first phase of the conventional build-up. Further progress was however severely interrupted by the economic recession of the mid-1980s. The recession years did not witness any significant development as most planned projects were either abandoned or deferred.

The second phase of the conventional build-up did not start until the 1990s when improvement in the Malaysian economy enabled the RMAF to resume its development programmes. Despite the relatively more benign security environment after the end of the Cold War, comprehensive development was undertaken. Development emphasis was evidently focused on the conventional approach with strengthening of firepower capabilities as its central theme. Air defence, strategic strike and air support capabilities were comprehensively enhanced not only to remedy the imbalanced force structure but also to transform the RMAF into a force that was capable of fighting in limited conventional conflicts.

On the whole, the development of air power in the RMAF has characteristically adopted two distinct patterns. Firstly, there was the CIW pattern, which could be argued to be largely a response to merely meeting the on-going internal security needs of the nation. Development was distinctly 'reactive' based more on expediency rather than one that was derived from long term strategic plans. Secondly, there was the conventional pattern indicating an increasing tendency to base its development on perceived external threats. Development was thus more 'pro-active' and air power capabilities were greatly determined by the various concepts of conventional air strategy. Therefore the hypothesis that will be affirmed or negated is: The air power development of the RMAF had been based on a combination of


\textsuperscript{3} Independent roles of air power are air operations that have no relations to operations on land or at sea. Examples are strategic bombardment and air defence operations. See AAP1000, \emph{The Air Power Manual}, RAAF, 1994, pp. 41-42.
meeting the needs of an on-going internal security situation and that of one based on external threat perceptions.

**Research Objectives**

The main enquiry of this study centers on two areas. Firstly, to enquire into how and why the RMAF had developed in the way it did. Secondly, to see if the development of the RMAF had been based on the need to react to the internal security situation as well as on external threat perceptions. It will also attempt to discuss the factors promoting or inhibiting the development of the RMAF as well as the factors influencing the RMAF’s shift from a CIW to a conventional posture.

This study will examine the development of air power in the RMAF by analyzing its force structure. However, it will not discuss the combat readiness of the RMAF. Such a discussion would entail the examination of many disparate factors that constitute readiness and sustainability such as the skill levels of its personnel, technical prowess, war stocks, logistics, training system, leadership qualities and the morale of the men. It would be extremely difficult to assess the readiness and sustainability of the RMAF owing to the difficulty of access to classified information and to the fact that intangible factors like operators’ efficiency and leadership qualities are almost impossible to quantify. Hence matters on combat readiness will not be discussed.

**Research Methodology**

For this study, the research methodology employed is known as Methodological Triangulation. In essence, this entails the employment of multiple methods to arrive at the findings of this research. The methods that are deemed most suitable for this study are the historical and the case study methods. The study on the development of air power in the RMAF firstly requires an accurate record of what has happened in the past. In this regard it involves the identification of the types of air power capabilities that have been procured over the period of study. More importantly, it also involves the examination of those factors that have influenced the considerations taken behind the procurement decisions. It must also be noted that the RMAF did not develop in isolation. Its development, more often than not, had been influenced by significant events of the past. But past events cannot possibly be replicated to see their effects on the development of the RMAF. For example, the events of the Vietnamese invasion of Cambodia in 1978 and the economic recession of the 1980s cannot possibly be repeated to see how they could affect air power development in the RMAF. Since the question refers to a situation that cannot be replicated, it represents truly a historical problem and thus a historical approach is adopted.

Furthermore, the study is essentially an examination of a single case on the RMAF itself and also on a single entity, and that is the development of air power in the RMAF. Also, as noted earlier, the development of air power in the RMAF is unique and its initial pattern of development bears little semblance to the widely recognised concepts of air power application. As such, it inevitably raises the question

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of why it is so? Thus a case study method is also employed. The use of Methodological Triangulation for this study is deemed more appropriate and conducive to better control of the major points of the research and the answers sought. This multiple method approach will help the researcher obtain better reliability and more validity in the analysis of the development of air power in the RMAF.

The primary data for this study were obtained through interviews with the various Chiefs of the RMAF as well as the RMAF officers who were directly or indirectly involved in the formulation and implementation of the RMAF development plans. Data were also obtained from published policy statements and through "participant observation," as the researcher is an officer currently serving in the RMAF. Other sources of data were the relevant literature and documents that were published in books, journals, magazines and newspapers.

**SIGNIFICANCE OF STUDY**

The scarce amount of literature on the development of the RMAF has not only made this subject poorly analysed but also improperly understood. Thus far, only cursory studies on the development of the RMAF are available. Often these studies are investigated either from the broad perspective of the armed forces of the Southeast Asian region or in case studies on Malaysia, in the ambit of the Malaysian Armed Forces (MAF). Meanwhile, in studies on the MAF, only cursory mention of the RMAF is included, and they are investigated either in the context of civil-military relations, defence expenditure, national and regional security or a simple record of their own history. As such a comprehensive study wholly dedicated to the development of air power in the RMAF is undertaken not only for the purpose of contributing to further understanding on the development of air power in the RMAF but also helps to bridge the knowledge gap on the status of the RMAF as an air power. This study also serves as a pioneer effort on the subject matter and it is hoped that as a precursor, it will lay the foundations and provide the stimulus for further attempts to analyse the development of air power in the RMAF in subsequent years.

**SYNOPSIS OF CHAPTERS**

Chapter II will examine the theoretical underpinnings of air strategies and how those concepts of air power application are relevant to Malaysia. Chapter III will assess the extent of the impact of the internal security threats on the development of air power in the RMAF. Chapter IV will attempt to identify the factors that helped influence the transformation of the RMAF from a force that played a supportive role in CIW into a conventional force with a bigger role to play in the nation's defence. Chapter V will assess the impact of extraneous factors such as the politics of arms procurement, bureaucratic politics and inter-service rivalry on the development of air power in the RMAF. Chapter VI will state the conclusions of this study.
CHAPTER II

RMAF AND THE APPLICATION OF AIR POWER: SOME THEORETICAL ISSUES

CONVENTIONAL AIR STRATEGY

This chapter will examine the theoretical underpinnings on air strategies and how these concepts of air power application are relevant to Malaysia. The term air power can mean different things to different people at different times. For example, Possony defines it as a complex of fifteen elements including raw material, industrial potential, guided missiles, morale and intelligence as well as aircraft.1 Meanwhile to General Arnold, Commanding General of the United States Army Air Forces (USAAF) in 1945 air power is:

a nation's ability to deliver cargo, people, destructive missiles, and war making potential through the air to a desired destination to accomplish a desired purpose.2

Air power as defined above encompasses the nation's total aviation activity which includes the military as well as the civilian component of aviation. Armitage and Mason see air power strictly as a sub-set of combat power. They define air power as:

the ability to project military force by or from a platform in the third dimension above the surface of the earth.3

The Armitage/Mason definition will be used in this study as it is mainly concerned with the military aspect of air power and not the total aviation capacity of a nation.

From the employment of air power in wars, air strategy is observed to be centered on three broad approaches or air campaigns. These air campaigns can be grouped as the control of the air, strategic air bombardment and air support campaigns. The emphasis an air force places on each of these campaigns is a key indicator of the air strategy pursued. A general air strategy is pursued when all three air campaigns are conducted simultaneously. If only one or two of the campaigns are conducted, then a limited air strategy is being applied. The concept of

employment of air power in conflicts along the line of these three approaches has not changed although the means of applying them has. Experience in the 1991 Gulf War seems to have confirmed again the applicability of these approaches. Strategic Air Bombardment was applied to eliminate Iraqi offensive capabilities and destroy their command and control centers. Control of the air missions included systematic suppression of Iraqi air defence assets as well as airfield attacks. Offensive air support was applied against Iraqi troops and their ground emplacements in Kuwait.4

**CONTROL OF THE AIR**

As a concept, control of the air means the complete denial of the use of the air to a potential enemy while retaining the unimpeded use of it oneself.5 Its purpose is to gain freedom of action in the air and once control has been established, land, sea as well as air operations can be conducted without prejudice from enemy air power. The notion of control of the air has its origin in the First World War. When the first airborne exchange of shots as attempts to deny enemy reconnaissance activity occurred, the notion of control of the air was first conceptualised.

Classical air power theorist like Giulio Douhet advocated that to win control of the air, the enemy air force is to be destroyed on the ground by bombing his aircraft, bases, support facilities and factories. He rested his case on the belief that there was little effective defence against the ‘battleplane’ when he wrote that ‘the battleplane is not adaptable to defence’ and that ‘nothing more that man can do on the surface of the earth can interfere with a plane in flight’.6 Such beliefs were proved unfounded when the radar came into military service providing solutions to the long search for an early detection of enemy air raids. Technology also narrowed the disparity in performance between fighters and bombers in the form of more powerful engines. The introduction of a synchronised device that permitted the firing of guns safely through propeller disc made air-to-air firing more accurate.7 These technological advancements profoundly challenged Douhet's thinking. Nevertheless, the concept of achieving control of the air through offensive actions in line with Douhet's thesis was well demonstrated by the Israelis in the 1967 Arab-Israeli War.8

Douhet's preference for offensive actions in gaining control of the air was not wholly accepted by the British. In 1935, the Royal Air Force (RAF) adopted a mixed air doctrine of defence and offence as its official doctrine. Exploiting radar technology and fighter performance, the RAF was the only air force that placed reliance on the defensive capabilities of the fighter aircraft. By 1940, a chain of early warning radars and its associated communications network was established accompanied by production of fighter aircraft and anti-aircraft weapons.9 Adopting this doctrine, the

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RAF was able to avert the planned invasion of Britain by Germany during the Second World War.

From the above it is clear that control of the air may be achieved either through offensive actions or through defensive measures. The air operations conducted to achieve control of the air are collectively termed as ‘Counter Air Operations’. Offensive air actions are termed ‘Offensive Counter Air’ (OCA). Unavoidable as part of an offensive air effort is the need to neutralise enemy air defence systems which include targets like command and control centers, early warning radars, surface-to-air missiles (SAM) and anti-aircraft artillery (AAA). Air operations aimed at neutralising enemy air defence systems are termed ‘Suppression of Enemy Air Defence’ (SEAD) operations.

Defensive action to achieve control of the air is commonly known as air defence operations and involve the employment of a combination of passive and active measures. Active air defence aims to inflict maximum attrition on the enemy air forces in the air while passive air defence encompasses measures designed to nullify or reduce the effectiveness of enemy air attacks. These actions are termed as ‘Defensive Counter Air’ (DCA). It must be pointed out that defensive actions can only achieve control of the air in a limited area or for a limited duration, and by themselves are unlikely to achieve total control of the air.

Notwithstanding its primacy in conflicts, securing control of the air is only a means of creating a favourable air situation to facilitate the successful conduct of other military operations. It is not an end in itself. Nevertheless, control of the air will remain the prime objective of all air forces. As Winston Churchill, British Minister of Munitions, said in 1917,

the primary objective of our air forces becomes plainly apparent, viz, the air bases of the enemy and the consequent destruction of his air fighting forces. All other objectives, however tempting, however necessary it may be to make provisions for attacking some of them, must be regarded as subordinate to this primary purpose ... Once this result is achieved and real mastery of the air obtained, all sorts of enterprise which are now not possible would become easy.\(^\text{10}\)

**STRATEGIC AIR BOMBARDMENT**

By itself, strategic air bombardment takes the war to the enemy homeland. Central to the beliefs of early air power theorists,\(^\text{11}\) this strategy offers an independent means to defeat the enemy through a sustained offensive against its sovereignty. Giulio Douhet is acknowledged to be the first to weave the doctrine of strategic air bombardment into a coherent philosophy. In his formulations, determined bomber attacks on the enemy’s centers of populations, seats of government and industrial centers would shatter the enemy’s morale leaving the enemy government no options but to sue for

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\(^{11}\) Most notable are Lord Trenchard, Giulio Douhet and Billy Mitchell. All three were advocates of the offensive use of air power. See David MacIsaac, 'Voices From The Central Blue', _Makers of Modern Strategy - From Machiavelli to the Nuclear Age_, Pater Paret (editor), Princeton University Press, New Jersey, 1986, pp. 629-33.
peace.\textsuperscript{12} He accordingly concluded that the air force was destined to become the dominant form of combat power and advocated that it should be strengthened at the expense of the other Services. Lord Trenchard of the RAF also expressed the doctrine in a similar vein:

It is not however, necessary for an air force, in order to defeat the enemy nation, to defeat its armed forces first. Air power can dispense with the intermediate step, can pass over the enemy Navies and Armies and penetrate the air defenses and attack the centres of production, transportation and communication in which the enemy war effort is maintained.\textsuperscript{13}

In 1917 Field Marshal Jan Smuts submitted his famous report in which he said:

Unlike Artillery, an air fleet can conduct extensive operations far from and independently of, both the Army and Navy. As far as the present can be foreseen, there is absolutely no limit to the scale of its future independent war use. And the day may not be far off when aerial operations with their devastation of enemy lands and the destruction of industrial and populous centres on a vast scale may become the principal operations of war, to which the older forms of naval and military operations may become secondary and subordinate.\textsuperscript{14}

This was used by the RAF to justify its independent status as a military service. The United States Air Force (USAF) also adopted the same line of reasoning to claim equality of status with the Army and Navy in 1947.\textsuperscript{15}

Strategic air bombardment was practised extensively during the Second World War. The Allied Bombing Offensive disrupted the German war economy and denied key supplies to the enemy forces. However the effect of the attacks on civilian morale was more controversial. Strategic air bombardment did not have the decisive effect it was thought to have; it was more an instrument of attrition that did not have much impact on the will of the German people.\textsuperscript{16}

While the strategic air bombardment campaign was the most contentious air power issue in the Second World War, it was not so in the 1991 Gulf War. Strategic air bombardment was used with such great success that by the end of the fifth week of the war, the Iraqi military capabilities and even their will to continue the war had become markedly affected. The use of stealth technology and precision guided munitions (PGM) had transformed strategic air bombardment from what used to be a crude instrument of attrition into its expected

\textsuperscript{12} Douhet, p. 58.
\textsuperscript{13} Quoted in Armitage & Mason, p. 5.
\textsuperscript{14} Field Marshal Jan Christian Smuts, 'Magna Carta of British Air Power', in Emme, p. 35.
form of a ‘knock out blow’. The Gulf War reinforced the importance of strategic air bombardment.

**AIR SUPPORT**

If strategic bombardment was a controversial addition to strategic thought, there are few disagreements on the value of the air support campaign. The main purpose of air support is to deliver firepower against enemy forces at critical times and places in a battle. The places may be the area of contact between opposing surface forces or behind enemy lines to destroy sources of support and to restrict troop and supply movement when they are needed most urgently. Air support can be broadly grouped into two areas and that is air support for land warfare and air support for maritime warfare.

**AIR SUPPORT FOR LAND WARFARE**

The advent of air power into the fighting forces of nations has transformed the way in which land warfare is fought. Air power has not only brought new capabilities but also new vulnerabilities to land forces. On the one hand, the mere presence of enemy air power threatens the security of land forces. Land commanders can no longer depend on terrain to protect them and to constrain the enemy’s options for advances. On the other hand, the firepower and offensive nature of air power have greatly enhanced the capability of land power thus accelerating the achievement of military objectives.

Arms forces have traditionally adhered to the notion that the main function of air power is to give support in the destruction of enemy land power - the ultimate goal in land warfare. But before this can be achieved, a propitious air situation to ensure effective land operations needs to be achieved. Therefore the first contribution of air power in support of land warfare is to seek out the enemy air force either in the skies or at its bases to eliminate it as a threat to the army. Subsequently, air power can be employed in cutting off lines of communication to prevent enemy reinforcement and logistics to the battle front. Operations of this nature are termed ‘Battlefield Air Interdiction’ (BAI). The bombing of enemy land forces at the battle front to speed up the progress of an advancing army, or to strengthen the resistance of a defending one is termed ‘Close Air Support’ (CAS) operations.

Offensive air power in support of land warfare was well illustrated in the *Blitzkrieg* doctrine of the Germans in the Second World War. The doctrine centered on the strategy of swift blows against the enemy armies utilising the combination of armour, infantry and aircraft. Air power not only performed Counter Air Operations in attacking aircraft and airfields but was also used as flexible long range artillery performing CAS and BAI operations. The German *Blitzkrieg* attacks on Poland and subsequently on Holland, Belgium and France demonstrated how air power can be successfully integrated with land power. In the Allied invasion of Normandy, the whole-spectrum of tactical air power operations was executed in support of the invasion. Counter Air Operations in securing control of the air, and CAS and BAI in support of the Normandy landings. The Normandy invasion demonstrated indisputably that even an inferior ground force could triumph with the support of air

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power. In the 1991 Gulf War, offensive air support in the form of BAI and CAS contributed significantly to the outcome of the conflict. BAI operations managed to cut off 90 per cent of supplies to Iraqi troops in Kuwait and were also responsible for the destruction of one third of Iraq's bridges. Iraqi deserters reported that daily rations were reduced to five spoonfuls of rice, a small piece of bread, and water. In CAS missions, Coalition air power was responsible for the destruction of Iraqi tanks, artillery and armoured personnel carriers. Iraqi military casualties were assessed as very high, if not horrendous.

Other than offensive capabilities, airlift can also contribute significantly to the land battle. Logistics in war is as important as the prosecution of combat operations itself. A force is only combat capable with effective logistic support. In this regard, airlift is not only able to extend the reach but also the timely resupply of land forces. Historically, airlift has proved to be crucial to success in high tempo warfare. Airlift has strategic as well as tactical significance. Strategically, its significance was witnessed in the Yom Kippur War in 1973. Both the Soviet and the United States resupply efforts to their allies had tremendous impact on the war. In the end, it was the Americans' airlift efforts in delivering the critically needed war logistics to the Israelis that decided the fate of the war. In this war, the Soviets airlifted 15,000 tons of war material to Egypt and Syria while 27,000 tons were airlifted to the Israelis by the Americans. The importance of strategic airlift was well demonstrated again in the Falklands War in 1982 in which both the Argentinean and British airlift capabilities played important roles respectively. Particularly for the British, it was the air-bridge between Britain spanning the Ascension Island and the Falklands that made victory possible. RAF Hercules aircraft air-dropped critical war equipment to naval and army units stationed in the combat zone. The usefulness of strategic airlift was demonstrated yet once again in the 1991 Gulf War. It was reported that airlift managed to deliver 544,000 tons of cargo and 501,000 passengers from the United States to the Gulf region in six weeks. It was the timely positioning of combat ready forces and their associated equipment in the war zone that deterred any further advances by the Iraqi Army.

Tactically, airlift can be used to distribute military forces and their supplies within theaters of operations. It can also be used to drop paratroopers as in Normandy during the Second World War or in the Israeli heli-borne assault operations to recapture Mount Hermon from the Syrians during the Yom Kippur War. In special operations, airlift can be used to insert forces for clandestine operations. An example of this application was the British raid on the Argentinean outpost on Pebble Island during the Falklands War. Special forces flown in by helicopters under cover of darkness managed to destroy ten Argentinean aircraft. Other non-lethal roles of air

23 Armitage & Mason, p. 135.
24 Keith Chapman, p. 150.
power that can contribute significantly to land warfare are air surveillance and reconnaissance. Thus land forces need air power's ability to distribute force, that is by providing air mobility or the rapid resupply to surface forces, as much as they need its ability to apply force meaning direct air bombing or air-to-air combat.

AIR SUPPORT FOR MARITIME WARFARE

Even in modern times, despite the exponential growth in commercial air transport, the bulk of international trade is still carried by sea transport. In war, ensuring freedom of passage along the sea lanes of communication (SLOC) is vital for the survival of a nation. With the advent of air power, security of the SLOC's can no longer be provided by naval ships alone. The air threat has added another dimension to traditional maritime warfare. Threats emanating from the sub-surface, surface as well as from the air are now the concerns of maritime warfare.

Air power can contribute significantly to maritime warfare in many ways. By means of direct support, air power enhances sea power in anti-submarine and anti-shipping roles. The use of aircraft to attack ships was effectively demonstrated by General Billy Mitchell in 1921 when he destroyed the captured German battleship Ostfriesland with 2000 lb bombs. Since then the anti-shipping role of air power has been given many operational expressions. The Japanese air attacks on naval ships at Pearl Harbor in December 1941 exposed the vulnerability of ships to air attacks. In the Battles of the Coral Sea and Midway, offensive actions against enemy ships were all undertaken by air power. For the first time in the history of maritime battles, surface ships did not come into contact with each other nor did they exchange fire. The Falklands War provides yet another example of the effectiveness of the anti-shipping role of air power. The Argentinean air attacks with Exocet missiles destroyed HMS Sheffield and the Atlantic Conveyor.

Air power can give indirect support by performing aerial reconnaissance, surveillance, and interdiction roles. As in operations in support of land warfare, a favourable air situation has to be won before any other activities can successfully take place. Thus control of the air over the sea is just as important as control of the sea itself.

AIR POWER - THE MALAYSIAN CONTEXT

Air warfare plays a large role in the outcome of conflicts with total objectives where the tools of blockade, large scale amphibious landings and the destruction of the enemy's economic infrastructure contribute to his collapse. But wars between smaller states have their own peculiar characteristics and thus demand different air strategies and capabilities. As observed by Eliot Cohen, wars between smaller states usually have far more limited objectives. Rather than seeking a total collapse of the enemy nation, the aggressor usually attempts to seize a piece of strategic territory and subsequently bargain for political concessions. The Egyptian assault on the Israeli’s

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27 Armitage & Mason, pp. 231-234.
Bar Lev Line in 1973 and the Iraqi attack on Iran in 1980 are classic examples. In such conflicts, the need to occupy land, or to subdue and police populations means that armies will become the *prima doma* force. Air forces in such conflicts usually play smaller roles and more often than not, serve as adjuncts to the ground forces. It is therefore important that the nature of conflict that Malaysia may possibly get involved in be established first before any appropriate air strategies can be determined.

**CONFLICT SCENARIO**

The saying that 'war is usually fought between neighbours' is applicable to Malaysia given the lingering territorial disputes with neighbouring countries. For example, the issue of overlapping claims in the Spratlys is often seen as the greatest source of military conflict and has yet to be settled. With Singapore, Malaysia has disputed claims on the islet of Pulau Batu Puth, and with Indonesia on the islands of Sipadan and Ligitan. Similarly, disputes with Brunei over Limbang and the Philippines' claim to Sabah have yet reached a favourable settlement. Although all these territorial disputes are being kept at low key, 'there has always been the remote, but ever present possibility of problems arising from the fact that Malaysia shares borders with each of the other five ASEAN members'.

Should hostilities break out, the scale of forces which could be deployed on the Malaysian territories would be limited by the capabilities possessed by the countries in the region. No neighbouring country has as yet developed the capabilities for mounting a major conventional invasion of Malaysia. For such an attack, the adversary would need extensive amphibious and air capabilities to beach and support a substantial land force. Against this backdrop, any hostilities against Malaysia would likely to be in the form of small scale lodgements on its territories rather than a major conventional invasion. Thus the type of conflict that Malaysia is expected to fight will be reflective of limited war between smaller states. The roles of air power in such conflicts are not necessarily the same as those in major wars. Thus to what extent are the three air strategies examined above relevant to the type of conflict that Malaysia may possibly get involved in?

**RMAF - A TACTICAL AIR FORCE**

First and foremost, the control of the air campaign would certainly be relevant unless the enemy has no air power whatsoever or does not intend to deploy air power in support of its lodgement. A scrutiny of the military capabilities of the regional countries reveals that all have some form of air power. It is also not too far fetched to assume that no enemy could expect to secure a lodgement on Malaysian territories

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without first establishing air superiority. One need only recall the sinking of the *HMS Repulse* and the *HMS Prince of Wales* by the Japanese in the Second World War to demonstrate the importance of a benign air environment. If this becomes the priority in future air warfare, then the only effective way to counter enemy air actions is by employing air power, as land and sea power seem to be relatively impotent in this regard. It is likely, therefore, that in future conflicts, competition for control of the air will be the initial predominant air activity when hostility begins. This will demand that the RMAF be able to conduct counter air operations with the aim of achieving air superiority.

**COUNTER AIR OPERATIONS**

Counter air operations can either be offensive or defensive. In the early stages of the conflict, OCA operations may not be a wise option as doing so may unnecessarily escalate the conflict. Politically, it might not be acceptable as it can invite international objections that can jeopardise the chances of a favourable settlement. But in circumstances where limiting and controlling the rate of escalation becomes untenable, offensive actions aimed at the enemy homeland would be a viable option. This option ought to be contemplated as extending the fight to the enemy homeland and will present him with problems of defence and prevent him from deploying his air power at will.

With regard to defensive operations, prolonged conduct of DCA operations will lead to a war of attrition which a limited asset air force like the RMAF will find difficult to pursue. Even so, Malaysia still needs to demonstrate a sound capability to defend her sovereign airspace as overt offensive actions may not be politically acceptable in the early stages of conflict. DCA is achieved by employing not only fighter aircraft in air combat alone but also an intricate system of early warning radars, communications network, SAM’s and AAA’s. Hence for effectiveness, counter air operations have to be conducted with a combination of both offensive and defensive means.

**STRATEGIC AIR STRIKE OPERATIONS**

The strategic air bombardment campaign in essence calls for the offensive use of air power to strike at the adversary’s sovereignty. For Malaysia to pursue the Douhetan concept of strategic bombardment is indeed far-fetched. Some qualification is necessary to distinguish between the Douhetan concept and the strike capability advocated here. Aiming to destroy the war making industries and the national infrastructure, and to hit at the will of the adversary nation would need high levels of operational readiness and great concentration of firepower. This without question will remain exclusively the domain of super or major powers. Even if Malaysia wishes to do so, she simply does not have the required air power assets, manufacturing capacity - both aircraft and munitions - and logistic infrastructure to hope to pursue this course of action. With limited platforms and scarce stock of spare parts and ammunitions, the ability to sustain massive air raids would be impossible. Moreover, the high risk nature of such operations can usually cause high attrition losses which a small air force like the RMAF can hardly tolerate.
Air power targeted at the will of a nation, particularly in Third World states, will not always be successful. For strategic air bombardment to be effective, the adversarial government must be sensitive to public opposition to war. A highly democratic government may be vulnerable to public opinion but certainly not the authoritarian type of government of most Third World states where decisions are usually made by a few political elites. It is observed that as governments become less democratic, they are less susceptible to public pressures. Furthermore, strategic air bombardment is more effective against a sophisticated and an industrialised enemy where suitable target systems are available for air attacks. Not many Third World states are industrialised countries. It is difficult, therefore, to change a country’s policy through strategic air bombardment if there are few socio-economic targets to attack. The failure of air power in the Korean War (1950-1953) and the Vietnam War (1965-1968) are examples. If the experience of Nazi Germany shows the ineffectiveness of strategic air bombardment, what more if it is targeted on Third World governments.

The above argument, however, does not preclude Malaysia from the need for a strike capability. The strike capability advocated here is more for attacking enemy military forces rather than industrial, governmental and population centers. Furthermore, the strike capability employed in the deep interdiction role can be effective even in lower intensity conflicts. Interruptions of critical war supplies to an enemy lodgement can severely affect his morale and fighting ability. Destruction of enemy units by interdiction before they reach the battle zone reduces the enemy’s ability to control the time and tempo of operations. In a broader sense, the deterrent value of possessing a strategic strike force is advantageous to Malaysia. The mere demonstration of a potent strike capability may be sufficient to deter the commencement of any provocative military actions by the adversary. It would therefore be advantageous for the RMAF to have a capability that is able to attrite the potential adversary as much as possible so that, at best, only a small force will remain by the time they establish a foothold on Malaysian territory.

AIR SUPPORT OPERATIONS

Air support operations are just as critical in limited conflicts. Should air power fail to achieve the prevention of enemy lodgement, then the dislodgement of enemy forces from Malaysian territories would have to rely on all available military combat power. In such situations, air power working in close concert either with land or sea power or both will be essential. For land campaigns, CAS and BAI operations will be required

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33 The RAAF has gone through lengthy debates on the relevance of the strategic strike capability in low level conflict. For more detail examination of the issue see Alan Stephens, Power Plus Attitude, Australian Government Publishing Service, Canberra, 1992, p. 170. See also P. J. Criss, Group Captain, Employing Smart Technology In Low Intensity Conflict, Air Power Studies Centre, Canberra, 1992, pp. 14-16.
while in the maritime environment, anti-shipping operations are essential. Other air support operations would include airlift to deploy and concentrate forces rapidly in the battle zone. Surveillance and reconnaissance operations to provide early warning as well as to provide a constant update of the situation in the battle zone is also considered essential.

From the discussion above, the air operations that are deemed relevant in the defence of Malaysia are DCA, reconnaissance, surveillance, airlift, CAS and BAI. But if the conflict escalates, then OCA and strategic air strike have to be included. These operations are reflective of the functions of a tactical air force. Making weapons to fit a particular war is definitely more sensible than making a war to fit a particular weapon. Thus the development of air power in the RMAF will at best be based upon the concept of a tactical air force rather than on that advocated by Douhet or Lord Trenchard which emphasizes strategic air bombardment.

34 Anti-Submarine Warfare capability, although relevant in the maritime environment is best left to the Royal Malaysian Navy. Realities of economy and the absence of a credible submarine force in the immediate region make duplication of this capability unjustifiable for Malaysia.

CHAPTER III


COLONIAL HERITAGE

The formation and initial development of the RMAF were mainly the efforts of the British. This was evidenced by the fact that the leadership of the RMAF for its initial ten years was provided by seconded personnel from the RAF.\(^1\) The idea to establish the RMAF was first mooted by the British Government way in December 1953. Several senior British officers were entrusted with the task of determining the policies to be pursued but it was not until November 1957 that Group Captain Johnstone was officially appointed as the first Air Advisor to the Government of the Federation of Malaya in the appointment of Chief of Air Staff RMAF.\(^2\) During the discussion on the formation of the RMAF, the British Government had agreed to bear the capital cost of equipping the new Air Force while its upkeep would be the responsibility of the Government of Malaya. With an initial allocation of RM 15 million,\(^3\) Air Commodore Johnstone was given the task to establish an air force for Malaya.

The establishment of the RMAF was symbolically marked by the arrival of its first aircraft, the Scottish Aviation Twin Pioneer named the Lang Rajawali which landed at the RAF Base Kuala Lumpur on 17 April 1958. The RMAF was officially established as an independent armed service co-equal to the Malayan Army and Royal Malayan Navy (RMN) on 1 May 1958. The formation of the RMAF and its subsequent development were not without opposition. According to Air Commodore Hyde, the Malayan Army then was not keen about the formation of an independent air force since the RAF was already providing all the air support needed for COIN operations. Other than differences in opinion regarding command of the new air force, (the Army wanted command of the air force) there was also the fear on the part of the Army that it might not get its fair share of the limited defence budget.\(^4\) Consequently, plans for introducing aircraft like Caribous, helicopters and light attack aircraft were delayed.\(^5\) While the Army opposition might have constrained initial RMAF

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\(^3\) Correspondence interview with Air Vice Marshal (Rtd) Johnstone, 27 December 1994.

\(^4\) Kapt (U) Ramlil, p. 6

\(^5\) Ibid.
development, what seemed to have more pervasive influence were the political and economic imperatives that prevailed.

**DOMESTIC FACTORS**

Domestic rather than external factors seemed to have more influence on the formation as well as the initial development of air power in the RMAF. The prevailing political and economic realities, the Anglo-Malayan Defence Agreement (AMDA), the formation of Malaysia, and most importantly, the counter-insurgency (COIN) factor all had a part to play in initially shaping the force structure of the RMAF.

**POLITICAL AND ECONOMIC REALITIES**

Air Commodore Johnstone's initial development plans were greatly affected by political and economic considerations. At the outset of Malayan independence, it was evident that the newly independent state would not be ready for immediate transfer of full control over defence. The MAF, with a small army of less than one division in strength and with neither a navy nor an air force, obviously did not have the required capabilities to undertake complete defence of the country. This was pointed out by Tunku Abdul Rahman, the first Malayan Prime Minister, in 1957:

... let us face the facts, and the facts are that we have at our command an army of less than one division; we have no air force, not even a single plane, or a single man; we have no navy, not even a single sailor and we have not even a single sea-going craft. With the revenue at our command we can never be able to build our forces to the strength which we require for the defence of our country.⁶

This state of affairs left Malaya little choice but to delegate her external defence to the British as provided in the AMDA,⁷ and Malaya only assumed responsibilities over internal defence. This arrangement to a large extent shaped the early development of the RMAF as indicated by Air Vice Marshal (Rtd) Johnstone:

Under the terms set out in the Act of Independence, the United Kingdom was to remain responsible for the external defence of Malaya whilst the newly created Malayan Government was to assume responsibility for its own internal problems. Thus the original RMAF was set up to reflect this.⁸

The internal defence policy and the consequence of the AMDA negotiations meant that the role of the MAF was to support internal security as well as assist the police in the maintenance of law and order in the country. This set the precedent for the RMAF to develop along the dictates of internal security. It was clear that with

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⁸ Correspondence interview with Air Vice Marshal (Rtd) Johnstone, 27 December 1994.
AMDA, air defence and offensive air support capabilities were not included as initial planning considerations.

Confronted with the colossal task of nation building, Malaya was disinclined to commit large sums of money for defence. This was made clear by Tunku Abdul Rahman in May 1956 when he entrusted the government to build up only a 'small army', as he was opposed to having a huge army that would sap the country's resources.9 His intention was only to 'maintain the prestige of a sovereign state without claiming too much on the country's finances'.10 Meanwhile the nascent government had identified political subversion and armed insurrection by the Communist Party of Malaya (CPM) as the greatest threat to national security. The official stand was that the communist insurgency could not be defeated by armed strength alone but by social and economic progress. This gave birth to the doctrine of 'security and development' as the principal means to combat the communist insurgency.11 Socio-economic development aiming to promote the progress and prosperity of the country was therefore given priority over the development of the armed forces. This was indicated by Tun Abdul Razak, the Defence Minister then, when he reiterated in 1960 that 'highest priority' would be given to rural development and explained that as it would require 'all the country's energy and resources ... we must be economical with regard to the funds which can be allocated to both the Armed Forces and Police'.12 This emphasis on socio-economic development had very much directed the scope of the RMAF development towards internal defence.

THE COUNTER-INSURGENCY FACTOR

The ensuing force structure of the RMAF was influenced by the CIW strategy adopted by the Government. At its independence in 1957, Malaya had a communist insurgency threat to contend with. The Communist Party of Malaya (CPM) fought the British during the Emergency13 and continued its struggle against Malaya after 1960. Its long term objective was to overthrow the Malayan Administration and establish in its place a communist republic. On 16 June 1948, a national state of emergency was declared after successive brutal murders of three European planters in Sungai Siput.14 This marked the beginning of the protracted armed struggle by the CPM. Although the Emergency was officially over in 1960, remnants of the CPM lingered on along the Thai-Malayan Border until 1989. Their subversive activities helped sustain the CIW profile of the MAF for more than three decades.

10 Ibid.
12 See address by the Minister of Defence at the Chief of Staff's Conference on 23 February 1960, cited in C. Jeshurun, Government Response to Armed Insurgency, p. 138.
13 The Emergency, which started in 1948 and did not end until 1960, was a COIN campaign conducted by the British Commonwealth Forces to fight communist terrorists in Malaya.
Air Vice Marshal (Rtd) Johnstone's decision on the type of aircraft to purchase to mark the birth of the RMAF was influenced by the pressing needs of air transport support for the ground forces in the ongoing COIN campaign. He said:

As the Emergency was still much to the fore I had to slant the new Air Force towards supporting the ground forces engaged against the communist terrorists (CT's), which entailed operating in deep jungle in support of the ground forces. This obviously called for a preponderance of helicopters and short take-off and landing (STOL) aircraft.\textsuperscript{15}

He also stressed that consideration was not given at the time to cater for an offensive role for the RMAF. This was attributed to two operational reasons. Firstly, insurgents like the Malayan Communists had no aircraft or air support of any kind or any ground based air defence weapons. This obviated the requirement for any air power capabilities to contest the control of the air. Secondly, the effectiveness of offensive air support in the dense jungle terrain was doubtful. The communist insurgents and their bases and supply lines were difficult to locate and to identify, let alone to attack with any measurable degree of effectiveness. The difficulty was further exacerbated by camouflage camps and the Communists' \textit{modus operandi} of operating in small contingents. Armed tactics adopted by the insurgents were usually based on the Maoist concept of guerrilla warfare where ambushes, hit-and-run raids, sabotage and terror represented the core operations. It was also rare that the insurgents embarked on massive open clash of force with the security forces. Simply put, there was no suitable target system for air power to attack.

Furthermore, experience from the 'Malayan Emergency' proved the futility of offensive air support in dense jungle terrain as it was revealed that,

a total of 35,000 tons of bombs were dropped throughout the twelve year Emergency Campaign, while 74,159 rounds of rockets and 9.8 million rounds of cannon and machine gun ammunition were expended. Out of these efforts only 10 per cent of the total 1,641 killed by security forces was attributed to air action.\textsuperscript{16}

All these operational considerations precluded the acquisition of an offensive air support as well as an air defence capability for the RMAF. The emphasis therefore was on the procurement of tactical air transport capabilities for the RMAF.

The purchase of the Twin Pioneer aircraft by Air Commodore Johnstone was much influenced by the 'hearts and minds' campaign that was launched by General Gerald Templar (British High Commissioner as well as Director of Operations) as part of the COIN efforts. This campaign had led to the setting up of numerous strategically located jungle forts used to maintain control of the aboriginal population living deep in the jungle. It was necessary for these posts, inaccessible to surface transportation, to be supplied by air. Experience from the Emergency Campaign had also revealed that it was through this life support means that ground troops were able to accomplish their

\textsuperscript{15} Correspondence interview with Air Vice Marshal (Rtd) Johnstone, 27 December 1994.

\textsuperscript{16} Armitage & Mason, p. 68. For more examples of the limited effectiveness of air strikes, see also Philip Anthony Towe, \textit{Pilots and Rebels: The Use of Aircraft in Unconventional Warfare, 1918-1988}, Brassey's, London, 1989, p. 82.
missions deep in the jungle. It was reported that twenty battalions with a total strength of 12,000 men were being sustained by air drop supply during the Emergency.\(^{17}\) There was also the need to utilise aircraft to perform important psychological warfare tasks - an important component of counter-insurgency strategy - like voice-broadcasting and leaflet dropping. Other tasks like air transportation, air reconnaissance, casualty evacuation and para-trooping were also considered as important for the air force in CIW. In short the aircraft should be able to perform a variety of air transport support tasks. These were the principal considerations upon which Air Commodore Johnstone based his initial order for six Twin Pioneer aircraft from Scottish Aviation Ltd. He also made arrangements for four Single Pioneers to be transferred from the RAF to the RMAF.

It was practical therefore that the RMAF be established initially with an air transport capability to support COIN operations. Subsequent development of the RMAF was focused on enhancing air transportation capability and meeting flying training needs. Additional Single and Twin Pioneer aircraft were procured and a flying training squadron was established in 1959 using the Chipmunk aircraft. Meanwhile, as part of its infra-structural development the Government obtained from the British the first RMAF base at Kuala Lumpur on 25 October 1960. Air transport capability was further enhanced with the arrival of the Cessna 310, the Dove and later the Heron aircraft. Initially performing training and air transportation tasks, these aircraft were gradually upgraded to fly both local and foreign Heads of Government and senior government officials. These new aircraft not only helped relieve much of the heavy workload of the Twin and Single Pioneer aircraft but were also used to provide air transportation for very important persons (VIP's).

**THE FORMATION OF MALAYSIA**

The formation of Malaysia in 1963 meant a substantial increase in national territory. Geographically the country was now divided into two regions with long SLOC's and there was an additional 1,200 miles of coastline in East Malaysia that had to be protected. These new responsibilities meant that there was a need to increase the force level of the RMAF. This was announced in the policy statement by the then-Defence Minister, Tun Abdul Razak:

> ... we have now, as a result of Malaysia, a bigger area to cover and a much longer coastline to protect; we have, therefore, to expand our defence forces to look after this area...Whatever policy we adopt externally, we must still have enough defence forces, firstly, to maintain law and order in our country, and secondly, to look after the close defence of our country.\(^{18}\)

Apart from the increased territories, there was also an increase in the deployment of the Malaysian Army units and the Police Force in East Malaysia not only to cope with the rise of insurgent threat but also to replace the departing British military presence when Confrontation ended. After the Indonesian Confrontation there


was a rise of subversion and communist insurgent threats in Sarawak. In order to maintain law and order as well as containing the insurgent threat in East Malaysia, a divisional headquarters in Kuching, and an infantry brigade, in Sabah and Sarawak were established.

The upsurge of insurgent activities in the Sibu area meanwhile had become so serious that the Rejang Area Security Command (RASCOM), comprising military, police and civil defence units was set up. These new establishments had created tremendous demands for air transportation, both intra-theater (within East Malaysia) as well as inter-theater (between West and East Malaysia). Meanwhile the deteriorating security situation in West Malaysia caused by the May 13 1969 racial riots led to the expansion of four infantry battalions in the Malaysian Army and five battalions of Police Field Force which created further demands for air transportation.¹⁹

As response to the heavy demands for air transportation, airlift capability in the RMAF was greatly enhanced. Intra-theater air transportation needs in East Malaysia were met with the deployment of the Twin Pioneers which were later replaced by the Caribous. Alouette helicopters were also introduced to augment tactical mobility of the security forces. For inter-theater air transportation needs, the Handley-Page Herald aircraft from Britain were purchased for the transportation of Armed Forces and Police personnel between West and East Malaysia. Airlift capability was further enhanced with the purchase of Sikorsky S61-4 (locally named as Nuri) from America, Bell helicopters, and Caribou aircraft from Canada. As replacement for the Dove and Heron aircraft, two HS 125 from Britain and two F-28 Fokker VIP jets from Holland were procured.

Concomitant with the continuing enhancement of air transport capability was the realisation that a light attack capability was required to support CIW operations. In the longer term, the need for the establishment of a fighter force as well as an advanced jet trainer aircraft was inevitable. Consequently aircraft such as Cessna -37, BAC 167 Jet Provost and the Canadian Tutor CL-41G were evaluated.²⁰ The plans to introduce the light strike capability was finally realised in 1967 with the introduction of the twenty Canadian Tutor CL-41G aircraft.

**EXTERNAL FACTORS**

The air defence role of the RMAF was the outcome of a complex interplay of influences emanating from the external environment. Firstly, Malaysia had to contend with a real military threat from Indonesia. Secondly, at the policy level, there was a gradual reorientation towards a self-reliant stance in defence matters. This was primarily in response to the British policy of withdrawing militarily from East of Suez and the loose defence framework that was negotiated to replace AMDA. Also, the perceived threats from the Philippines and Singapore had, with varying degrees of influence, acted as catalysts in the acquisition of an air defence capability for the RMAF.

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¹⁹ Chin Kin Wah, p. 168.
²⁰ Personal interview with Air Vice Marshal (Rtd) Dato' Sulaiman Sujak on 18 January, 1996. Air Vice Marshal (Rtd) Dato' Sulaiman Sujak was the first indigenous Chief of the RMAF. He was an RAF fighter pilot who joined the RMAF in 1965 and subsequently served as Chief of the RMAF from 1967 to 1976.
In 1963, Malaysia was confronted with an external military threat. Indonesia, under President Soekarno pursued a policy of Confrontation.\textsuperscript{21} Despite emanating from an external source, it was in essence, an insurgency-type war fought largely by the British, Australian and New Zealand Forces. Although it was an insurgency-type war, the whole spectrum of air power capabilities were deployed by the RAF to support the campaign (see Appendix A for the RAF squadrons deployed during the Indonesian Confrontation). The Indonesian military activities were mainly confined to trans-border incursions, subversion and infiltration. The Indonesian Air Force was never utilised to its maximum potential despite its numerical strength. Its initial activities were merely confined to nine incursions into the Malaysian territories by B-25 Mitchell bombers escorted by P-51 Mustang fighters.\textsuperscript{22} But when the RAF Hunters and later the Javelin all-weather interceptors went into operational service at Labuan and Kuching, Indonesian air activities ceased immediately. With air superiority achieved, ground forces were able to concentrate on their tactical operations without any prejudice from the Indonesian Air Force. Although there was little air warfare, nevertheless two enriching lessons could be learned from this experience. Firstly, the deterrent value of air power was vindicated by the fact that the Indonesian Air Force was effectively grounded after the deployment of the RAF fighters in the region. This meant that the Indonesian ground forces were deprived of the necessary air mobility and resupply support so vital in this campaign. Secondly, the air superiority enjoyed by the British Commonwealth Forces meant that their tactical ground operations were conducted without any interference from enemy air power. Had it not been for the presence of the Commonwealth air forces, the Indonesian Air Force would have been fully utilised to exert more influence in the campaign.

On the whole, the external threat posed by the Indonesian Confrontation did not trigger any ambitious RMAF development or cause any major shift in development orientation as it was in essence an insurgency war. Two factors accounted for Malaysia’s tardiness in building up conventional forces to meet the threat posed by the Indonesian Confrontation. The AMDA defence treaty, firstly, had provided the wherewithal for the defence of Malaysia and as a result had engendered a ‘consumer’s attitude’\textsuperscript{23} in Malaysia’s approach to defence planning. Secondly, there was the reassurance from the Indonesian Army to the Malaysian leaders that they would not support the Confrontation to avoid escalating the conflict.\textsuperscript{24}


\textsuperscript{22} Indonesian Air Force then had 550 aircraft that ranged from bombers, fighters to transport aircraft. There were Russian Badgers and US B-25 Mitchell bombers, while the fighters ranged from P-51 Mustangs fighters to Russian MiG-17’s, MiG-19’s and MiG-21’s. Transport aircraft were mainly C-130’s Hercules and Dakotas. See E.D. Smith, p. 83.

\textsuperscript{23} ‘Consumer’s attitude’ relates to the willingness of the Malayan leaders then to delegate external defence of the country to Britain and the Commonwealth members of the AMDA Treaty. Malaya and Singapore were considered as defence consumers in the defence arrangement. See Chin Kin Wah, pp. 179-180.

\textsuperscript{24} Harold Crouch, \textit{The Army and Politics in Indonesia}, Cornell University Press, New York, 1988, pp. 74-75.
Ironically, it was the insurgent threat in the post Indonesian Confrontation period that had greater impact on the RMAF development. Other than the enhancement of airlift capabilities, the Indonesian Confrontation did hasten the setting up of air bases in Labuan, Kuching and a regional air headquarters in Sarawak to facilitate command and control of air operations in the area. Obviously fundamental changes were precluded by the continued dependence on British defence assistance. It was not until the British announcement of a military withdrawal from east of Suez in 1968 that opened up a new era of quantitative and qualitative expansion for the RMAF.

THE POLICY OF SELF-RELIANCE

While the policy of maintaining internal security may seem viable so long as the AMDA was intact, the situation changed drastically when the British Labour Government decided in 1968 to withdraw militarily from east of Suez. The British pullout from East Malaysia after the Indonesian Confrontation in 1966, and the ambiguous Five Power Defence Arrangements (FPDA) - the alternative defence arrangement replacing AMDA - seemed to have been the principal reasons that persuaded the Malaysian Government to opt for a more independent approach towards development of the armed forces.

The FPDA, established in November 1971 to replace AMDA, brought many challenges to defence planning in Malaysia. The FPDA, essentially a loose security framework, meant that Malaysia had now to look after its own defence as foreign assistance would no longer be automatically given. Under the FPDA there would only be consultation among the member states in the event of either Malaysia or Singapore being attacked. The uncertainties of foreign commitment were reflected in the Australian Defence Minister Malcolm Fraser's statement of March 1970 that 'governments nowadays do not give blank cheques saying automatically that if something happens their troops will march'. This non-committal stand was also taken by the British Defence Secretary, Denis Healey who said in April 1970 that 'there would be no automatic British commitment'.

Actions seemed to match rhetoric when the unreliability of support from the FPDA partners was confirmed on two occasions. In relations to the Philippine's claim to Sabah in 1968, Australia indicated that it would remain neutral in intra-regional disputes. The slow and lukewarm response from both the British and the Australian Governments to the Malaysian request for arms and equipment in the wake of the May 13 1969 racial riots further reinforced the perception that the days of an external defence guarantee were numbered. These developments convinced Malaysia of the need to become more self-reliant in defence matters.

26 Chin Kin Wah, p. 176.
27 Ibid., p. 171
28 Ibid.
Another factor that had influenced Malaysia's self-reliant stance was the disengagement of the US from Indochina in 1975. It severely limited the defence and foreign policy options open to small nations like Malaysia and resulted in a major shift in Malaysia's foreign policy from a pro-west stance to one based more on non-alignment and equi-distance towards the superpowers. Thus was evolved the concept of the Zone of Peace, Freedom and Neutrality (ZOPFAN). It further motivated the Malaysian defence policy shift from internal defence to a self-reliant posture, implying the increasing inclination to develop the armed forces for external defence.

PHILIPPINES/SINGAPORE THREAT

The air defence gap created by the withdrawal of the British from the region stimulated an awareness of the need for an independent role for the RMAF - that of air defence. This was further heightened by the revival of the Philippines' claim to Sabah in 1968 - an event sparked off by the Corregidor incident. The strained relationship between Malaysia and the Philippines had resulted in many instances of violation of Malaysian airspace over Sabah as well as the buzzing of Malaysian ships by the Philippine Air Force (PAF). The PAF was one of the most modern in Southeast Asia at that time with Northrop F-5 A/B's and the F-86 Sabre as its front line fighters. Malaysia, without any air defence capability then could not possibly provide any effective counter measures against the provocative actions of her neighbour. All that was done was to deploy the Tebuns to Sabah. This was intended more as a show of political will and commitment to assure the local populace than as measures to counter the Philippine air power. Malaysian sensitivity to the weakness in her air defence was also manifested by its request for the RAF Hunter flights over Kota Kinabalu in September 1968. All this clearly pointed to the need for an indigenous air defence capability.

It was Singapore's emphasis on air defence capability that had further evoked Malaysia's interests in acquiring an air defence capability. For example, Singapore had not only placed orders in June/July 1968 for Hunter jets and BAC 167 Jet Provost trainer/light attack aircraft but had also inherited the air defence radar network and Bloodhound SAM's from the RAF. There was also agreement that future Singapore fighter pilots training would be done in Britain. These developments could not but hasten the acquisition of an air defence capability, given the acrimonious relationship and mutual distrust between the two countries after Singapore's separation from Malaysia in 1965.

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31 The incident was about the revelations by the lone survivor at Corregidor Camp that Muslims from Southern Philippines were being trained for infiltration into Sabah. Chin Kin Wah, p. 149.
33 The author was one of the many pilots who flew the Tebuan aircraft on these missions.
34 David Hawkins, *The Defence of Malaysia and Singapore from AMDA to ANZUK*, The Royal United Services Institute, London, 1972, p. 34.
36 The two problems that affected the relationship between Singapore and Malaysia then were the plans of massive mutual expulsion of workers by both the countries and the competing demands for the limited aid provided by Britain to cushion the accelerated British withdrawal. See Chin Kin Wah, p.
Malaysia's air defence capability was finally satisfied with the gift of 10 Sabre jets and a simulator from Australia in 1969 as well as the stationing of two Mirage fighter squadrons in Butterworth under the auspices of the FPDA. The Sabre jets were the first dedicated air defence aircraft that the RMAF had operated. They were also useful training platforms for pilots progression to the faster Northrop F-5s aircraft in later years. During the 1971-1972 period, three ground based air defence radars together with their command, control and communications systems were established to complement the Malaysian air defence capability. The integration of the Malaysian Artillery air defence guns for low level air defence duties completed the essential components of a modest air defence system for the country. The poor air worthiness of the fast aging Sabres, the high cost of maintenance and the need to keep abreast with the air defence capabilities of her neighbours necessitated the purchase of one squadron of Northrop F-5 supersonic fighters from the United States as replacement for the Sabres in 1975. Thus the Philippines and the Singapore scare had partly contributed towards the implementation of a new air defence role for the RMAF.

RMAF - A COUNTER-INSURGENCY AIR FORCE

Several factors, each with varying degrees of influence, had contributed to the development of air power in the RMAF since its formation until 1975. Among them, security threats have figured prominently especially when they were definitive and immediate in terms of their consequences for national security. In this regard, the communist insurgent threat, which was the most pervasive, had been the main factor that had precipitated a precedent for the RMAF to play a supportive role in the nation's defence. From the very beginning, the main thrust of its development was orientated towards meeting the needs of tactical mobility of the Malaysian Army and the Police in combating the communist insurgency threat. Although the formation of the Malaysian Federation, the rise in insurgency threat in East Malaysia after the end of the Indonesian Confrontation, and the worsening internal security situation caused by the racial riots in 1969 had spurred expansion, the emphasis nevertheless remained only in enhancing airlift capability of the RMAF.

The internal security role assigned to the MAF had made the RMAF a junior partner viz-a-viz the Army in the nation's defence. The concern with internal consolidation and stability in the face of the various forms of domestic unrest and communist insurgency demanded COIN forces. COIN operations, in essence required a high mobility force armed with light infantry weapons to react to the hit and run tactics of the communist guerrillas. This made the Army the prima donna force in the MAF. It also meant that the RMAF could only play a support role. Thus the great emphasis placed on internal defence had brought about a force structure that was heavily biased towards tactical mobility capabilities in the form of fixed- and rotary-wing transport aircraft for the RMAF (see Appendix B).

The imbalanced force structure until the late 1960s indicates that the development of the RMAF had been a direct response to the internal security needs of the country rather than one that was derived from a comprehensive air strategy. The development was based more on expediency and reflective of a reactive process

148. For a comprehensive account of the early issues that caused the strained relationship between Singapore and Malaysia see Chandran Jeshurun, *Malaysian Defence Policy*, pp. 98-106.
driven by the dictates of internal security. Consequently, the RMAF from its inception until the late 1960s was more an air force only capable of performing the roles of air power in CIW. In CIW, it is the non-lethal roles of air transport support, air supply and air reconnaissance that are more relevant than firepower roles. Counter air, strategic air strike, CAS and BAI capabilities could not operationally fit into the CIW environment. The significance of the firepower roles rested in the threat of their use rather than their actual use.37

While domestic factors had been responsible for the CIW structure, the RMAF’s new orientation towards an air defence role in the early 1970s was principally a response to regional development. The Indonesian Confrontation provided the opportunity for the Malaysian authorities to realise the importance of control of the air. The British military withdrawal from east of Suez, the lack of faith in the FPDA, and the foreign policy of ZOPFAN undoubtedly had acted as catalysts to convince the Malaysian Government of the need for a new policy of self reliance. This implied that there was an increasing need to transform the MAF from being a force designed to deal with internal security into a much more credible organisation capable of countering any form of limited aggression. While bringing about a more independent outlook in defence matters, the departing British military presence had also created an air defence gap, a weakness that needed to be addressed in the light of the perceived threats from the Philippines and Singapore. For the RMAF, the prime role of defending the nation’s air space was inevitable. This marked the beginning of a discernible shift towards developing the RMAF into a conventional air force. As aptly stated by the former Chief of the RMAF, Air Vice Marshal (Rtd) Dato’ Sulaiman Sujak, the development of the RMAF for the period from 1958-1976 was greatly shaped by ‘the communist insurgency threat resulting in the RMAF playing a supportive role’. There was no requirement to consider other roles as ‘air power was adequately provided for by the RAF’. But ‘the Indonesian Confrontation, the perceived threat from the Philippines and most importantly, the British withdrawal from the region were the main factors that precipitated the need for an air defence capability in the RMAF’.38

38 Personal interview with Air Vice Marshal (Rtd) Dato’ Sulaiman Sujak, 18 January, 1996.
CHAPTER IV

THE CONVENTIONAL ERA:
THE DEFENCE/OPERATIONAL DIMENSION
(1975-1990s)

THE RISE OF COLD WAR INSECURITY

Growing in an ever complex political, economic and security environment, the development of air power in the RMAF from the mid-1970s onwards was influenced by both external and internal events. Air power development in the RMAF was primarily stimulated by unfolding events taking place in the strategic environment.

THE VIETNAMESE THREAT

What triggered off another wave of RMAF expansion from the mid 1970s onwards was the ominous development in the strategic environment caused, in particular, by the turmoil in Indochina. The Nixon Doctrine of 1969, which no longer permitted US troops to be committed to direct military actions in Southeast Asia,¹ laid the basis for the American withdrawal from the region. Moreover, the American withdrawal from Indochina in April 1975 following the victory of the communist forces in South Vietnam together with the impending draw-down of its forces from the bases in Thailand after the end of Southeast Asian Treaty Organisation (SEATO)² in 1977 only confirmed the view that Washington could no longer be relied upon to provide the security umbrella in the region.

In November 1978, Moscow and Hanoi signed a Treaty of Friendship and Co-operation which obliged the Soviet Union to provide military assistance as well as to come to its aid in the event of a military aggression. But what was more worrying was the threatening presence of Soviet strategic forces (both naval and air) operating from bases in Cam Ranh and Danang. It was from these bases that the Soviet Union was able to project its power both into the South China Seas and the Straits of Malacca as well as probing into air spaces of the region. In fact, it was reported that 'Soviet

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² SEATO was a collective defence treaty established in 1954 to oppose communist expansion in Southeast Asia. Its members were America, Britain, Australia, France, New Zealand, Pakistan, the Philippines and Thailand. After the Vietnam War in 1975, the organisation phased itself out of existence. See Kenneth Macksey & William Woodhouse, The Penguin Encyclopedia of Modern Warfare, Penguin, London, 1993, p. 288.
intelligence gathering and surveillance aircraft have been intruding into Malaysian airspace operating from bases in Vietnam.3

The People's Republic of China (PRC) seemed to be the only regional power that provided the counterweight in the communist united front. The rise of the Khmer-Vietnamese conflict, on the one hand, and the Sino-Vietnamese tension on the other, somewhat ameliorated the communist danger from Indochina. In 1978, the PRC entered into the Vietnam/Cambodia conflict by crossing into Vietnam to 'teach Hanoi a lesson'.4 This intra-communist rivalry led to the rise of a new alignment of forces with the Soviet Union backing Vietnam, and the Hun Sen Government, and the PRC supporting the Khmer Rouge in Cambodia.

The perception that the balance of power had shifted in favour of the communist forces was further reinforced by the fall of Saigon in 1975 and the Vietnamese invasion of Cambodia in 1978. This signaled the beginning of an impending security threat not only to Malaysia but also to other ASEAN countries. The fall of Saigon and the Vietnamese invasion of Cambodia in 1978 brought back memories of the 'domino theory', which was prevalent during the 1950s and the 1960s.5 The Vietnamese occupation of Cambodia and its continued opposition to Cambodian self-determination not only created apprehensions over its long term ambitions but also brought about the fear that the conflict may spread to other states in the region. The threat was further heightened by the numerous Vietnamese military incursions into Thailand. The increased military activities of the three communist powers (the Soviet Union, the PRC and Vietnam) against the backdrop of a waning American military presence inevitably created concern about the prospects of peace and stability in the region. The possible use of force to invade and occupy another Southeast Asian country with a superpower as a guardian cannot but have strengthened the perception that the likely march southwards by the Vietnamese would pose the greatest security challenge to Malaysia. Referring to the Vietnamese threat, Tun Hussein Onn, the Prime Minister then, said in the Malaysian Parliament:

Malaysia has taken and will continue to take the necessary preparations to meet any serious threat from Vietnam ... if Thailand's security is affected, Malaysia's security will also be affected and therefore Malaysia has to make the appropriate preparations to deal with the problem.6

The Vietnamese threat had brought about Malaysia's realisation of the need to formulate new defence policies and develop expertise and capabilities for conventional warfare. The 'Gonzales' series of conventional exercises, where the RMAF was called in to test its air support capabilities, were not only measures taken to prepare the military to meet the Vietnamese contingency but also represented a manifestation of the impending shift from COIN to conventional strategy. The largest

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5 The Domino theory relates to the belief that should South Vietnam fall into Communist rule, the rest of the Southeast Asian countries would also fall. See Pamela Sodly, The Malaysian Connection in the Vietnam War, Contemporary Southeast Asia, Vol 9, No. 1, June, 1987, pp. 38-43.
6 Muthiah Alagappa, p. 183.
of the series, Gonzales IV, based on a notional enemy structured along Vietnamese lines, was reported to have involved 50,000 troops, 10,000 vehicles and all tactical aircraft of the RMAF.\footnote{Ibid., p. 185.}

**THE EXCLUSIVE ECONOMIC ZONE AND THE SPRATLYS ISSUE**

Another factor that had greatly affected air power development in the RMAF was the declaration of the Exclusive Economic Zone (EEZ) in 1980 by the Malaysian Government. The enlarged sea space (about 160,000 square miles) is rich in petroleum, natural gas, marine and mineral resources. The oil and gas structures were all located offshore and were thus vulnerable to enemy encroachment. Their protection would inevitably demand new capabilities not only to provide early detection of any hostile encroachments but also to enforce regulations that Malaysia might wish to apply.

Nonetheless, of most consequence following the declaration of the Malaysian EEZ was the overlapping claims in the Spratlys. Part or whole of the Spratlys is claimed by the PRC, Taiwan, Vietnam, the Philippines, Brunei and Malaysia. Malaysia has staked claims to about a dozen reefs and atolls in the southeastern portion of the Spratlys as a result of a national mapping exercise conducted in 1979. To reinforce its legitimacy over the disputed territories, Malaysia had dispatched troops on the Swallow Reef (Layang Layang in Bahasa Malaysia) in 1983, Mariveles Reef (Matanani) and Dallas Reef (Ubi) in 1986.\footnote{Chang Pao-Min, ‘A New Scramble for the South China Sea Islands’, *Contemporary Southeast Asia*, Vol. 12, No. 1 June 1990, p. 23. For details of Malaysia’s claims, see Richard Stubbs, *Malaysian Defence Policy: Strategy versus Structure*, p. 46.}

The crux of the problem was that none of the claimants accepted the claims of the others. The possibility of military confrontation was high especially when armed clashes between the PRC and Vietnam occurred in 1974 over the Paracels and in 1988 over the Spratlys.\footnote{For an analysis of the two Chinese expeditions see Michael Leifer, ‘The Maritime Regime and Regional Security in East Asia’, *The Pacific Review*, Vol. 4, No. 2, 1991, p. 131.}

As Chang Pao-Min has noted,

> The practical difficulty of demarcating the sea boundaries, the poor prospect of fruitful bilateral talks, and the clear obstacle to holding multi-lateral negotiations all suggest that a negotiated settlement is still far away, and the potential for armed conflict remains great.\footnote{Chang Pao-Min, p. 35.}

Fears that the future use of force to assert claims over the disputed areas might escalate into a regional conflict prompted Malaysia to give the Spratlys a higher priority in defence planning.

This was evidenced by the airfield development project at Labuan and the first RMAF single service exercise conducted to assess its readiness in meeting the Spratlys contingency. It was envisaged that in the event of any hostilities in the Spratlys, air operations would most likely be launched from Labuan for its geographical proximity to the Spratlys. Intended as the forward operating base for fighter operations, the facilities at Labuan were upgraded to meet fighter operation...
requirements. Under this project, the runway length of the airfield was increased from 6000 feet to 8000 feet. Other works included more aviation fuel storage facilities, increased parking and operational readiness pans space and arrester cables for fighters.  

As part of the test to gauge the readiness of the RMAF in meeting the Spratlys contingency, an air exercise involving the whole operational force level of the RMAF was launched. F-5s, RF-5s, Skyhawks, Aermacchis and PC-7s were deployed to Labuan to carry out their respective roles in air defence, CAS, maritime strike, and tactical reconnaissance. Meanwhile the transport and maritime assets were also exercised in their strategic/tactical mobility and maritime surveillance roles. Even the mobile air defence radars were deployed from West Malaysia to cater for early warning requirements. Beside familiarizing RMAF crews with the new potential conflict environment, this exercise also underscored the seriousness with which the Malaysian Government viewed the Spratlys issue as revealed by the Chief of the MAF, General Tan Sri Hashim Mohamad Ali in 1989. With regard to the Spratly issue, he said that the MAF’s defence priorities in the South China Sea changed from ‘secondary to very much top priority’.

The Special Expansion Plan

Comprehensive air power development in the RMAF was undertaken as a result of the perceived Vietnamese threat as well as the consequences of the promulgation of the Malaysian EEZ. RMAF development during the period from 1979-1983 was part and parcel of the long term expansion plan termed as Prekembangan Istimewa Angkatan Tentera (PERISTA). The most significant air power asset procured under this plan was the 88 refurbished Skyhawk aircraft which were bought from the US Navy in 1980. The aircraft was originally planned as a replacement for the Tebungs in the CAS role for CTW. But when maritime based threats emerged - a result of the disputed claims in the Spratlys - the Skyhawks were reconfigured for maritime strike capability.

Meanwhile two RF-5E aircraft for the role of tactical reconnaissance and three PC-130H Hercules maritime surveillance aircraft were purchased. The RF-5E aircraft were purchased to provide a photographic reconnaissance capability for both land and maritime operations. These aircraft were employed over the Spratlys for intelligence gathering when Malaysia dispatched troops to occupy the various atolls in the Spratlys in the mid 1980s. The purchase of the maritime surveillance PC-130 aircraft in 1980 was primarily precipitated by the need for air surveillance after the promulgation of the Malaysian EEZ. This need was justified particularly as it was during this period.

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11 The project was jointly funded by the Ministry of Transport and the Ministry of Defence. Runway length was extended to facilitate Malaysian Airline System’s Boeing 737 operations and fighter operations of the RMAF. Operational readiness pans are parking areas at both ends of the runway to facilitate scramble of fighters for air defence missions. Arrester cables are facilities for preventing fighters from over-shooting the runway in times of brake failure during landings and during aborted take-offs.


13 The Tebungs, after about two decades of operational use had been suffering from serious technical defects and high attritional losses due to crashes. Of the twenty aircraft purchased ten had been lost due to crashes. Figures compiled from various newspaper reports over the period from 1968-1983.

14 Aaron Karp, p. 348.
that the Vietnamese refugees problem became an international issue. Malaysia regarded the Vietnamese refugees as a threat to its national security as its perception was that Vietnam was using them to destabilise the Malaysian government. As the majority of the Vietnamese refugees were Chinese in origin, there was the fear that the influx of these refugees would cause domestic political and racial problems in the country. The PC-130 maritime surveillance aircraft were purchased to provide early detection of Vietnamese refugees as a requisite measure to assist the RMN in their enforcement duties.

Meanwhile, a squadron of twelve Aermacchi MB339 advanced jet trainers was purchased from Italy, partly to enhance the advance jet training requirement and partly to replace the Tebuans in the light attack roles. The need for basic training aircraft was satisfied by the introduction of 44 Pilatus PC-7 aircraft. Other than as platforms for basic flying training, the PC-7 aircraft were also configured for the light attack role. The airlift capability of the RMAF was further strengthened with the purchase of longer range transport aircraft in the form of C-130s from America. These new aircraft were intended primarily to replace the aging Heralds that were purchased in the early 1960s. The main role of these aircraft was to provide air transportation for the MAF and Police personnel between East and West Malaysia. With their carrying capacity of 90 passengers, they were particularly beneficial to the Army and Police during battalion change-overs and for rapid reinforcement of force in times of internal crisis.

It could be argued that these new procurements were the consequence of threat perceptions derived from an assessment of the strategic environment as well as those emanating from the consequences of the promulgation of the Malaysian EEZ. It must be noted that prior to 1975, the RMAF had only limited capabilities to counter any form of external military aggression. It was essentially structured to fight CIW with a preponderance of tactical airlift capabilities. The only conventional capability in the RMAF then was the modest air defence set up. In terms of air superiority it had to rely on the single squadron of Northrop F-5s which was in essence only effective for DCA operations. In terms of offensive air support, the firepower capabilities of CAS and BAI were grossly lacking. All that was available was the light attack capabilities of the Tebuans which was meant for COIN operations rather than conventional offensive air support. It was obvious that the limited air power capabilities of the RMAF were no match for Vietnamese air power then. The Vietnamese Air Force was able to deploy 310 combat aircraft comprising a comprehensive array of Russian fighters that ranged from MiG-15s, 17s, 21s to Sukhoi Su-7s. (See Appendix C for the air order of battle of Vietnam.)

The purchase of the Skyhawks, RF-5E's, Aermacchi 339 and the PC-7s was to give more firepower to the RMAF in CAS and BAI missions. The Skyhawks in particular were to provide a capability to strike at the Vietnamese homeland whenever

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16 *Ibid.*, pp. 102, 110. See also Pamela Sodh, pp. 48-49.
the situation demanded in line with MAF’s defence strategy of forward defence. These new capabilities of the RMAF showed that the emphasis was on developing a nucleus of conventional capability not only to counter specifically the perceived Vietnamese threat but also threats emanating from the possibility of a military confrontation in the Spratlys as well as meeting the needs of resource protection in the Malaysia EEZ.

THE NEW EMERGENCY

In the mid 1970s, Malaysia once again had to contend with the insurgent threat. Greatly encouraged by the success of communist forces in Vietnam, the remnants of the communist terrorists along the Thai-Malaysian border embarked on a new wave of subversive activities. The resurgence of communist activities was manifested by the bombing of the National Monument in Kuala Lumpur, the assassination of the Chief Police Officer of Perak and the rocket attacks on the Police Field Force Headquarters and the RMAF Base in Kuala Lumpur. The communist terrorists not only caused havoc in the urban areas but also adopted more aggressive tactics when confronting Malaysian security forces in their jungle sanctuaries. RMAF helicopters, on air supply missions, were frequently shot at by the communist terrorists. The aggressive tactics eventually paid dividends when the communists scored a morale boosting success in shooting down a Nuri helicopter killing all the crew members at Gubir in 1976. This incident together with the great demands for tactical mobility and logistic support for the Army and the Police along the Thai-Malaysia border further created the need for more helicopters. Consequently, the strength of the helicopter fleet was increased by 27 S-61 Nuri helicopters in 1978 to support COIN operations. Since the most immediate challenge to the integrity of the Malaysian Government came from within the country, the MAF’s role in COIN continued to be emphasized despite the looming external threat.

THE ECONOMIC DETERMINANT

While threat perceptions had spurred air power development in the RMAF during the mid 1970s, ironically it was also the threat perceptions - but in this instance, a receding threat from Vietnam - that had momentarily interrupted the RMAF’s transition into a conventional posture. Apart from this factor, economic reasons also accounted for the slow pace of air power development in the RMAF during the 1980s. Whatever development plans the RMAF had could not be implemented unless they had financial backing. What the RMAF gets in terms of weapon systems at the end of the day will be determined by the economic affordability of the nation. The dichotomy between ‘guns and butter’ has always been an important government consideration. In view of the unexpected economic slow down and the receding threat from Vietnam,

18 Personal interview with Lieutenant General (Rtd) Datuk Mohamad Taib on 26 Jan 1996. Lieutenant General (Rtd) Datuk Mohamad Taib was the Chief of the RMAF for the period of 1977-1983.
20 Kapt(U) Ramli, p. 28.
the obvious seemed inevitable as the government was more inclined to emphasize 'butter' rather than 'guns'.

**The Recession Years: 1984-1990**

The Malaysian economy started slowing down some time in 1980-1981 and as economic performance was not expected to improve in the near future, defence allocation had to be reduced. This was announced by the Finance Minister, Tengku Razaleigh Hamzah, in his 1984 Budget Speech:

Defence allocation alone (excluding that for internal security) will fall by 30.4 per cent next year. Although there is much concern about the possible threat to the country from external sources the government clearly feels that the need for financial stability needs greater priority.\(^\text{21}\)

Further justification for the reduced defence budget was premised on what constituted adequate security and the price that should be paid for it. While the political and bureaucratic elites acknowledged that drastic cuts in the defence budget might adversely affect defence capability, they also believed that drastic increases would not necessarily lead to assured security. The reason behind this thinking was the fear that excessive defence spending would create unease and suspicion in neighbouring countries and trigger a regional arms race that would be detrimental to the overall security of Malaysia.\(^\text{22}\)

The recession had caused many RMAF projects to be deferred. For example, during the mid 1980s period, the RMAF was planning to introduce a new generation fighter to augment the current fleet of F-5s. Among the aircraft evaluated were the F-16s, F-5G (an updated version of the F-5E) from the US, the Tornado from UK and the French Mirage 2000.\(^\text{23}\) This project, together with the planned purchase of additional F-5E's and the construction of a training base at Gong Kedak, was turned down by the government. Hence RMAF's transition to a full-fledged conventional posture was greatly hampered by the economic recession. When Vietnam was regarded as a threat defence spending for development of the MAF jumped from RM 316 million in 1978 to a peak of RM 1390 million in 1983. However with the recession and the receding Vietnamese threat, defence spending was markedly reduced to a mere RM 360 million in 1985\(^\text{24}\) indicating that development of the MAF, or for that matter, the RMAF was highly threat driven.

**Doctrine of Comprehensive Security**

Apart from the economic recession, the adoption of the 'Doctrine of Comprehensive Security' by Malaysia also retarded the growth of the RMAF. Threat perceptions to

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\(^{21}\) *New Straits Times*, 5 December 1979.

\(^{22}\) Muthiah Alagappa, p. 188.

\(^{23}\) Bilveer Singh, however, has argued that the evaluation of F-16 by the RMAF in the mid 1980s was a response to the order of Skyhawk by Singapore. See Bilveer Singh, 'ASEAN's Arms Procurements: Challenge of the Security Dilemma in the Post Cold War Era', *Comparative Strategy*, Vol. 12, 1993, p. 218.

\(^{24}\) Muthiah Alagappa, p. 174.
national security took a dramatic shift when the Vietnamese threat receded with its withdrawal from Cambodia in July 1989. Malaysia's threat perceptions now shifted to the PRC not in terms of a military invasion but more in terms of China's support for the CPM. With these new developments, the Malaysian leadership in 1984 started to emphasize the economic, social, and political rather than the purely military aspects of national security. This new policy was announced by the Prime Minister, Dr. Mahathir Mohamad, in his keynote address to the Institute of Strategic and International Studies (ISIS) National Conference on Security in 1986:

...national security is inseparable from political stability, economic success and social harmony. Without these, all the guns in the world cannot prevent a country from being overcome by its enemies, whose ambitions can be fulfilled sometimes without firing a single shot.25

The economic slow down and the de-emphasis on the military element in the new doctrine of national security had caused severe cut backs in defence allocation. In a civilian dominated regime such as Malaysia, it is the politicians in power who make decisions in defence spending. It is also the prerogative of the ruling elites to emphasize the importance of national security if and when they recognise or perceive the need for it.

Thus with limited funds and a more benign external environment, the development emphasis of the RMAF was more on consolidation and optimization of existing assets. Whatever funds allocated were spent in upgrading existing air power assets. For example, six Skyhawk aircraft were modified as air-to-air refuelling tankers. Other upgrade programmes attempted were the fitting of guns in the Caribous and the Alouette helicopters to provide some form of firepower for convoy escort and resupply missions in COIN operations. The only new acquisitions were two prototype Challenger VIP transport aircraft from Canada. But due to their frequent technical set backs they were replaced by a Falcon 900 in the late 1980s. Two second-hand flying boat Albatross aircraft were also purchased in 1984 to perform logistic and sea rescue missions. These aircraft were difficult to support due to lack of spares and were decommissioned after five years of service.

It was clear therefore that the interruption to the RMAF's conventional build-up was a result of a combination of factors. The economic slow-down, the fast receding Vietnamese threat, the de-emphasis on the military aspect in the new approach to national security, and the fear of an arms race all contributed to retard the growth of the RMAF.

THE NEW MODERNISATION SCHEME

The era of the 1990s witnessed unprecedented expansion of the RMAF to the extent that the RMAF was seen as the trend setter in the Southeast Asian region. Comprehensive development was seen in the enhancement of air defence, strategic strike and air support capabilities which had further strengthened it as a conventional force. The factors that have accounted for the impressive air power development in the RMAF are undoubtedly diverse, nonetheless, certain broad trends can be identified.

Recent global events have brought about significant changes to the security environment in Southeast Asia. The dissolution of the Soviet Union which ended the Cold War had transformed what used to be a bipolar balance of power into one that is multipolar. With the collapse of communism, Russia has to address the daunting tasks of social and economic reconstruction. With an increasingly 'homeward bound policy', its once threatening strategic forces have been withdrawn from Vietnam.

The end of the Cold War has brought about a situation worldwide where the vital interests of the US are no longer threatened by a single readily identifiable permanent adversary - the Soviet Union. The loss of the sustaining logic of the Cold War coupled with its economic decline and diminishing domestic support for its defence expenditure has made a US global draw-down seem inevitable. Specifically in the Asia-Pacific region, evidence of this may be seen in the closing down of the Clark Air Base and Subic Bay in 1992. The perceived decline of the Pax Americana together with the virtual disappearance of the Soviet Pacific Fleet appear to have created an opportunity for regional powers like the PRC, Japan and India to be more assertive in pursuing their national interests.

The two superpowers’ withdrawal from the region has given rise to the 'power vacuum' theory which, many analysts have argued, was a factor that has caused defence build-up in the ASEAN states.26 The current RMAF build-up is not in anyway to counter or balance any regional power threat. While there is the recognition that the regional powers could possibly be a long term threat, it is inconceivable for Malaysia to develop capabilities to compete with their military capabilities. Such an attempt would not only be financially prohibitive and politically destabilising but also counter-productive. To cite an example, the Chinese military build-up is so far superior that even a joint ASEAN effort to militarily confront the Chinese would be futile. The might of the Chinese East Sea fleet was demonstrated when it conducted a 120-day, 57,000 nautical miles training cruise to the South China Sea in 1990.27 It was also reported that the PRC can call upon 45 major surface combatants, 100 submarines and a naval infantry brigade and has the logistical capability to sustain a naval task force at sea for 30 days.28 If fears of regional powers were the driving force behind the current RMAF development, then strategic bombers with longer range and firepower, force multipliers like Airborne Warning and Control System aircraft (AWACS), PGMs and a host of other advanced stand-off weapon systems would be required.

Two other events showed the extent to which the traditional threats to Malaysia's security have diminished. Firstly, the Vietnamese threat, high on the agenda previously, has diminished as evidenced by its withdrawal from Cambodia in 1989 and its acceptance into ASEAN as a member in 1995. Fears of an expansionist

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28 Cited in J.N. Mak, p. 46.
Vietnam were proved to be unfounded. Secondly, the signing of a tripartite agreement between Malaysia, Thailand and the CPM on 2 December 1989 formally ended the four decades of communist armed struggle against the Malaysian Government. The communist guerrilla threat in Sarawak similarly came to an end when the North Kalimantan Communist Party (NKCP) signed an agreement with the Malaysian Government to end hostilities in 1990.29 These events signal the end of an era of CIW for the MAF.

The strategic security environment of the Southeast Asian region in 1990s is fluid and uncertain. The lack of readily identifiable threats in the immediate term and uncertainty over the shape of the regional order over the long term mean that the strategic environment does not provide adequate impetus for the RMAF force expansion. It can be argued that the current RMAF build-up can be attributed to the plans to meet lower level threats that emanate from near neighbours. It can also be viewed as part of the evolutionary development of the RMAF.

SECURITY RELATIONS

Malaysia's relationship with her immediate neighbours has not always been without problems. Among them, Singapore seems to stand out significantly in Malaysia's strategic calculations since the mid-1980s. This is not to say that Malaysia has no security issues with other near neighbours but generally there is always more conflict of interests with Singapore than with the rest. For example, when the President of Israel, Chaim Herzog, visited Singapore in November 1986 there were demonstrations in Malaysia. Singapore created a minor furore in 1991 over a 10-day Malaysian-Indonesian exercise in Johore and accused Malaysia of insensitivities for holding military manoeuvres close to the Republic without prior notice.30 Of most significant is still the issue of Singapore's forward defence strategy which aims to advance and occupy a zone that is 80 km into Johore through a pre-emptive strike.31

Malaysian-Indonesian ties have been affected by the Malaysian regional foreign policy initiatives which are regarded by Jakarta as a challenge to its leadership role in the region. This has led to the Indonesian President's dismissal of the East Asian Economic Caucus (EAECA) initiative.32 The presence of more than one million Indonesian immigrants in the country may affect bi-lateral ties if Malaysia implements policies detrimental to the interests of Indonesia. The territorial disputes over the Sipadan and Ligitan Islands are still outstanding. Malaysia's problems with Thailand, concern the latter's purchase of a helicopter carrier and the perception that Malaysia is helping the Muslim separatists in Southern Thailand in their secessionist struggle against Bangkok. With regard to the Philippines, there is still the unresolved Sabah claim and the alleged Malaysian support for the Moro National Liberation

30 Singapore was Aware of Joint Exercise, New Straits Times, 15 August 1991.
Movement in their efforts to seek independence from Manila. Apart from this, there are still the territorial disputes with her neighbours that await amicable settlement (see Chapter Two, page 22-23). In view of past differences and the present conflict of interests, Malaysia cannot help but view her neighbours with caution. The situation in ASEAN has been described as:

While ASEAN member-states have been reticent about threats emanating to members from within the ASEAN organisation, the foreign and defence policies of the member-states, as well as the pattern of arms procurement, would tend to indicate that, more often than not, the enemy the ASEAN states are trying to overcome comes from within the organisation rather than from without, even though this is never openly stated or identified.³³

As has been pointed out earlier, the initial phase of the RMAF’s conventional build-up was severely affected by the economic recession of the mid-1980s. The deferment of numerous RMAF projects over the years has created a strategic disparity with the neighbouring countries’ air capabilities. Indonesia and Thailand have already introduced F-16s as their front line fighters. Singapore, besides having F-16s, the Hawkeye E-2C early warning aircraft and the KC-130 as force multipliers has also Maverick TV-guided air-to-surface missiles and laser guided bombs (see Appendix D for illustration of Malaysia’s disparity with Indonesia, Thailand and Singapore in combat aircraft). The RMAF, with only F-5s as its front line fighters, all of them over 20 years old, could hardly match the neighbours’ air power capabilities. Moreover, the operational readiness of the Skyhawk fleet was less than satisfactory owing mainly to their frequent crashes. This dismal state of affairs certainly called for a need to narrow the strategic parity gap with her neighbours. This call was made by the Defence Minister, Dato’ Sri Mohd Najib Tun Razak in 1993:

It must be pointed out that over the last two Malaysia Plans, the armed forces has not made any major capital equipment purchases. Today our purchases are partly to make up for the lost time. If one is to compare with other states, they have constantly been buying new equipment, thereby keeping up with the advancement of technology. We have, unlike some other states, a lot to catch up in developing the MAF into a conventional structured armed forces, together with sophisticated technology that are regarded as indispensable in today’s modern warfare.³⁴

It can thus be seen that the impressive development of air power in the RMAF in the 1990s was partly driven by the need to address the military imbalance with her neighbours.

³³ Bilveer Singh, p. 212.
THE EVOLUTIONARY IMPERATIVE

The current RMAF expansion can also be seen as part of an evolutionary development of the RMAF. Although the Vietnamese threat is no longer relevant, the needs for enforcing claims in the Spratlys and for resource protection in the Malaysian EEZ remain. For such duties the maritime capabilities of the RMAF needed to be enhanced. There was also the need to up-date obsolescent equipment as the RMAF’s firepower capability was in a dire state. The F-5s were all over twenty years old. Its capability as the main kill mechanism in the Malaysian air defence system was inferior to the F-16 fighters of the neighbouring Air Forces. The operational readiness of the Skyhawks was also a suspect and the Tebuans were all over twenty years old. The long neglect of the RMAF over the years has also created a technological gap which needs to be bridged. This was particularly significant as the 1991 Gulf War had shown that the effectiveness of air power was highly driven by technology. On the whole, the combat capability of the RMAF then was not only constrained by quantity but also by the quality of its air power assets. Thus the need to address the regional military imbalance, to replace obsolescent equipment, and to catch up with new technological advancements in aircraft and air weapon systems was part of the driving force behind the air power development in the RMAF.

With improved economic performance in the 1990s, Malaysia was in a much better position to continue the conventional expansion of the RMAF. The 1990s was also the period where arms suppliers were offering aircraft and weapons systems at attractive prices as well as tempting incentives such as counter trade and transfer of technology. The Malaysian decision to purchase the MiG-29s, Hawks and the CN-235 are examples to capitalise on the attractive packages offered by arms suppliers.

The current expansion of the RMAF cannot be attributed to one single factor alone. The regional strategic environment is too complex and Malaysia’s security relationships with her neighbours too varied to permit a simple explanation. Nevertheless, it can be argued that the current RMAF expansion is, to a large extent, due to the synergistic influence of the perceived threat from near neighbours coupled with the push for the conventional build-up as part of an evolutionary process. The improved Malaysian economy and the attractive arms packages offered by arms suppliers only help to hasten the current development process of the RMAF.

THE ERA OF MEMORANDUM OF UNDERSTANDING

The end of the communist armed struggle has compelled the MAF to review its warfare doctrine and strategy. This provided the RMAF the opportunity to further transform its structure into a conventional air power. Development plans were thus premised along conventional warfare concepts as evidenced by the various air power assets procurement programmes through the various Memorandum of Understanding (MOU).

AIR SUPPORT CAPABILITY

Air support capability for the RMAF was realised by the signing of the MOU with Britain in 1988. The deal which amounted to US$ 8.5 billion was the largest ever
defence contract with Britain. For the RMAF, the first priority was the replacement of
the Skyhawk in the attack role and the goal was to be met by the purchase of twelve
Tornado interdiction bombers. But due to the Tornados prohibitive cost, the Hawk
was purchased instead. Details of the finalised deal were ten Hawk Mark 100 twin
seat advanced jet trainers, eighteen Hawk Mark 200, cluster ammunition and Sea
Eagle anti-ship and Advanced Long Range Anti-radiation Missiles (ALARM).35 The
Hawk 200 would be employed primarily in the CAS, maritime strike and BAI roles.
The Hawk 100 meanwhile would serve as an advanced jet trainer which is currently
undertaken by the Aermacchi MB339 aircraft. The RMAF Chief, Lt. General Dato’
Seri Abdul Ghani Aziz, has indicated that there is an intention to fit the twenty-eight
Hawks with in-flight refuelling probes to extend their combat radius of action.36

While firepower seemed to be the central theme for the RMAF development in
the 1990s, non-lethal air power capabilities were also not neglected. For example, the
over-stretched Caribous (in service for more than thirty years) will be replaced with
the purchase of six CN-235 from Industri Pesawat Terbang Nusantara (IPTN) of
Indonesia.37 To further meet the air surveillance requirements of the EEZ, four
Beechcraft Super King Air B-200T were bought from the US, costing RM 100
million.38 These aircraft are to augment the current PC-130H maritime surveillance
fleet. Five super Hercules C-130s costing RM150 million were purchased from the
US to enhance the strategic airlift capability, and support the brigade-strong Rapid
Deployment Force (RDF) of the Army.39

AIR DEFENCE CAPABILITY

The RMAF has long recognized the need to acquire a high performance combat
aircraft to replace the existing F-5s. Consequently, aircraft like the F-16 and Mirage
2000 were evaluated but again, due to cost considerations, decisions for the F-5
replacement had to be deferred until a low cost option could be found. This option,
which was to purchase Russian MiG-29s, was announced by the Defence Minister in
June 1994. The deal costing RM 1.4 billion would include sixteen single seat and two
twin seat MiG-29 air superiority fighters. Two simulators, an operational flight
training and a full mission model were included to give the RMAF pilots more
realistic and effective training. Offset arrangements such as the establishment of a
joint venture Technical Service Center (TSC) locally to provide technical support and
a transfer of technology package carried out over ten years with local aerospace
companies were concluded. Both governments agreed that payment be made partly in
cash amounting to RM 1.2 billion and partly in palm oil amounting to RM 244 million
over a period of five years.40

With this purchase, the RMAF would become the first air force in the region
to fly the MiG-29s. The two years of hard bargaining was to finalise technical
modifications to meet RMAF specifications such as in-flight refuelling, integration of
Western avionics with Russian air-to-air missiles, upgrading of airframe life span

36 RMAF aircraft to have inflight refuelling gear, The Star, 13 August 1994.
from 4000 to 6000 hours and an increase of 1000 pounds in engine thrust together with an upgrading of engine life by 300 per cent.\textsuperscript{41} The RMAF's air defence capability was also enhanced with the purchase of two GEC Marconi Martello S-743D surveillance radars as part of the MOU deal with Britain.

**STRATEGIC STRIKE CAPABILITY**

The F/A-18D contract signed by the Malaysian Government with McDonnell-Douglas of the US at the Langkawi International Maritime and Aerospace (LIMA) exhibition in 1993 was certainly not part of the modernization policy of the RMAF. The purpose of acquiring the F/A-18D was to meet the deep interdiction and strategic strike requirement of the RMAF in line with the strategy of deterrence and not as replacement of obsolete weapon systems. This was stated by the Defence Minister, Dato' Sri Mohd Najib Tun Razak in his keynote address at the Air Power Conference in Kuala Lumpur held in October, 1994:

> There are operations that require the interdiction of enemy formations hundreds of miles away ... Air forces will have to attack the enemy to delay, disrupt, divert and destroy his forces with impunity ... Naval forces too require air protection against hostile forces. As such air power is required to provide air cover not only during sea battles, but also during their voyages.\textsuperscript{42}

The F/A-18D, with its range and potent strike power means that the RMAF can now bring the war to the enemy homeland with not only increased survivability but also with greater lethality. The F/A-18D is considered to have a far superior performance than the F-16s owned by Indonesia, Thailand and Singapore.\textsuperscript{43} The F/A-18Ds innately offensive capability will not only enhance the deterrent posture of the RMAF but will also close the strategic disparity gap with neighbouring Air Forces.

**RMAF - A TACTICAL AIR FORCE**

The impressive development of air power in the RMAF over the last two decades, particularly in firepower capabilities, has further strengthened the RMAF as a conventional air force. The counter air capabilities, with a fair mix of defensive (MiG-29s) and offensive capabilities (F/A-18D), make attainment of the control of the air far more achievable. The strategic air strike capability in the form of F/A-18Ds will not only bring the war to enemy homeland with greater credibility and lethality but will also provide the politicians with more options in times of conflict. The offensive air support requirements of the RMAF, both in the land and maritime environment, are provided for by the Hawks performing CAS and BAI and anti-shipping roles, and when necessary, augmented by MiG-29s and F/A-18s. The eleven C130s together with the three maritime patrol C130s (when converted to transport

\textsuperscript{42} Dato' Sri Mohd Najib's keynote address at the Air Power Conference in Kuala Lumpur, p. 4.
configuration), the six CN-235s and the big helicopter force will form the nucleus of strategic and tactical airlift capabilities. The RF-5Es, the PC-130s and the four B-200T Beechcraft will constitute the primary surveillance and reconnaissance capabilities. Modest as it might seem, the RMAF, after more than three decades of evolution, has a more balanced structure that is more suitable for limited conventional conflict as shown in Appendix E.

The factors that had provided strong impetus for a conventional build-up were a combination of threat and non-threat factors. First and foremost, ever since the British withdrawal from east of Suez in 1969, the government has never flinched from its ultimate goal of achieving self-reliance in defence. From 1975 onwards, air power development in the RMAF was undergoing a dramatic shift from COIN to conventional warfare capabilities. After the mid-1970s, a unique set of circumstances - strategic, economic and political - had spurred the development of conventional capabilities. The fall of Saigon in 1975 and the Vietnamese invasion of Cambodia in 1979 provided further impetus for an extensive expansion programme with land based conventional capabilities as its focus. The unsettled Spratlys dispute and the urgent need for resource protection after the promulgation of the Malaysian EEZ also played a part in shaping the maritime build-up in the RMAF. Air power development in the RMAF during this period was thus primarily threat driven.

The period after the Cold War was an era when threats were not readily identifiable. For Malaysia, the end of the old bipolar strategic order has brought to the fore more diffused low level threats. The RMAF build-up in the 1990s can be argued to be driven by a combination of threats emanating from near neighbours and the dictates of an evolutionary process. This conventional focus would mean an increasing tendency for the RMAF to base its development upon a long term air strategy which was significantly absent in the past. This will not only help to bring about an orderly expansion but will also effectively address the present imbalanced force structure of the RMAF. All these factors together helped the RMAF to transform from a supportive service to a force that will play a more prominent role in the nation's defence.
CHAPTER V

RMAF DEVELOPMENT: THE 'POLITICS' IMPERATIVE

PUBLIC POLICY STRUCTURE AND PROCESS

A study on air power development in the RMAF confined to examining political, economic and security factors will be incomplete if the aspect of institutional 'politics' is left out. The politics behind arms procurement in the RMAF as well as institutional politics, though often beyond the control of the RMAF, are also factors that can affect air power development in the RMAF.

Unlike the armed forces of Indonesia, Thailand, and the Philippines the MAF is an extremely apolitical institution.\(^1\) It plays little political roles and is subservient to the civilian political authority in almost all aspects of the public policy decision process. As observed by Zakaria Haji Ahmad,

\[\ldots\text{the outstanding characteristics of the military as national institutions in these countries (meaning Malaysia, Singapore and Brunei) is that they are subservient to the civilian authority and their political influence circumscribed as such by non-military superordinates, either in the public bureaucracy or those in political authority.}\] \(^2\)

The MAF is under the direct control of the Prime Minister, the Cabinet, the Defence Minister and the civilian bureaucrats, within the Ministry of Defence (MINDEF) and the National Security Council (NSC). The Prime Minister, at the apex of the national security structure, plays a dominant role in the decision making process on national security matters. Political leadership thus plays an important role in shaping the responses to Malaysia's security environment. Their perceptions on national security will undoubtedly influence development in the RMAF. As one analyst has observed, security decision making can be,

\[\ldots\text{at first glance, a rational organizational approach to decision making. But it can also be highly political and irrational since the process may reflect the power and interests of actors who wish to affect the process. The voices at}\]

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\(^2\) Zakaria Haji Ahmad, The Military and Development in Malaysia and Brunei with a Short Survey on Singapore, p. 234.
security meetings are largely those of civilians - politicians and bureaucrats - who may or may not be savvy about security and defence matters.\(^3\)

In a civilian dominant regime such as Malaysia, development of the MAF is controlled by the civilian masters. Although the military can be quite sensitive to the overriding influence of the civilian authorities, in the main, the military remains faithful to its role and concept of being a servant to the civilian authorities. This has accounted for the superior attitude of the civilian elites towards the military in security matters.

**The Politics of Arms Procurement**

Under normal circumstances, arms procurement is based on cost, capability and national political considerations. The political considerations however are outside the purview of the RMAF. When civilian authorities dominate the public decision making process, proposals for aircraft and major weapon systems by the RMAF must not only be seen to serve service interests but must also fit into the overall political context. In this regard political considerations seemed to have an overriding influence on not only the quantity and the types of weapons to be procured but also the sources of suppliers.

Although this has been so, the impacts of political considerations on arms procurement for the RMAF were not as great then as they were in the 1990s. This was because in the past, threats to national security were easily identifiable and the strategy to counter them well articulated. This had made the task of organising and prioritizing arms procurement for the RMAF not only simple but also relatively free from political interference. The political masters were quite prepared to rely on professional advice from the RMAF. Thus, the responses to the RMAF development plans were positive and no difficulties were encountered in the process.\(^4\)

The CIW strategy against the communist insurgency threat and the conventional strategy against the Vietnamese threat are clear examples. Aircraft requirements were satisfied by either purchases straight off the shelf or through gifts from the British and other Commonwealth members.\(^5\) However, when the strategic situation was obscure, when there was no consensus on the most likely adversaries, arms procurement was more determined by the political elites or based on economic considerations. The uncertain strategic environment of the 1990s has made security threat definition difficult. This has given rise to a situation where political and economic considerations have taken priority over pure military considerations in the on-going conventional build-up of the RMAF. The result was that arms procurement policies for the RMAF in the 1990s, have become more complex with a distinct incorporation of ‘off-set arrangements’ that involves technology transfer, counter-trade and counter-purchases.

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5 Examples of gifts from the Commonwealth members were 4 Caribous from Canada in 1966, 2 Doves from New Zealand in 1968 and 10 F-86 Sabres from Australia in 1969.
THE TORNADO SAGA

It appears that service interest is a less important factor than ‘politics’ in influencing the recent decisions on aircraft purchases. This can be seen in the removal of the Tornados from the 1988 Memorandum of Understanding (MOU) with Britain. From the beginning, the Malaysian political and RMAF leadership were the main driving force behind the Tornado deal. They together viewed the Tornado acquisition as a means of increasing Malaysian power and prestige within the region. The RMAF had wanted a high performance combat aircraft in air defence, air defence suppression and strategic strike roles to address the military imbalance in the region. As pointed out by the Chief of the RMAF, Lt. Gen. Tan Sri Mohd Ngah Said in 1988, the RMAF was no longer the regional leader in terms of advanced jet fighters in view of the decisions by Thailand, Indonesia and Singapore to acquire the F-16.6

The desire to address the regional military imbalance could also be seen in the attempt to add four electronic combat reconnaissance (ECR) versions of the Tornado to the eight interdiction deep strike (IDS) versions stated in the initial MOU with Britain in 1988.7 The Tornados would have given the RMAF a sophisticated strike aircraft capable of long range attack and a capability of penetrating through most, if not all, regional air defences. But since the British Government was reluctant to sell the IDS/ECR versions of the Tornado, for fear of upsetting the regional military balance, and could only offer the air defence variant, the deal was eventually cancelled.8 In this case, service interest had clearly been over-ridden by political interest. Although prohibitive cost was given as the official reason, it was clear that politics had a part to play in the selection of aircraft for the RMAF.

THE HAWK PURCHASE

The Hawk purchase by the RMAF does not seem to adequately address the regional military imbalance. The Hawk is essentially an advanced jet trainer that could at best be employed in the attack and limited air defence roles even when equipped with updated avionics. They are not only inferior in performance to the front line fighters (F-16s) of the regional air forces but also to the F-5s of the RMAF. To the RMAF, the Hawk purchase is only to update obsolete equipment and not a progression to a new generation of advanced jet fighter. It must be pointed out that, at that point in time, the frustration of the RMAF seemed justified especially when the introduction of a new generation fighter had been delayed by the government for more than a decade. Further, the Hawk was rejected by the RMAF as an advanced jet trainer during the period of the 1980s.9 Moreover, the introduction of the Hawks makes the existing Aermacchi MB-339 jets redundant. As the Chief of the RMAF, Lieutenant General Dato’ Seri Abdul Ghani Aziz has pointed out: ‘We are using the MB-339 because we

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7 David Saw, ‘No to Tornado - Confusion from Malaysia’, Military Technology, 8/90, p. 102.
9 Interview with Lieutenant General (Retd) Tan Sri Mohd Ngah Said on 1 February 1996.
have it, but in reality its use is redundant'. It must also be noted that other than the Tornados, the British could not offer any fighter aircraft other than the Hawks. And as the Malaysian government insisted on only buying British, the RMAF had little choice but to accept a British fighter aircraft.

It was clear that national development priorities had overruled service interests in the selection of the Hawks especially since the contract ‘provided for an 80 million pounds sterling programme’ for the local manufacture of technical requirements to be sold to British Aerospace as a buy back obligation. Furthermore there was also the possibility that Malaysia might become the regional maintenance and overhaul centre for the Hawk aircraft. Despite the RMAF’s interest in acquiring a strategic strike capability, in the end she has to accept the Hawk aircraft indicating that national development priorities and political considerations far outweigh military interests. The Hawk purchase shows clearly the influence of political factors on the development of air power in the RMAF.

**THE MiG-29 COMPLICATION**

The MiG-29 purchase from Russia was another illustration of how political and economic considerations superseded service interests. Although the MiG-29 purchase may mean a qualitative improvement to Malaysia’s air defence capability, in reality it may not be in the best interest of the RMAF to operate them. The Russian MiG-29s could complicate maintainability and sustainability which ultimately would impair the combat effectiveness of the RMAF. Operating Russian aircraft and assimilating Russian technology is a novelty to the RMAF. As such there is always the attendant long learning curve to get accustomed to Soviet equipment and operational philosophy. Besides, it would also entail great changes to the existing operating and maintenance procedures of the RMAF.

For the RMAF, the MiG-29 deal still could cause as many problems as it could solve. The guarantee of spare parts from Russia had yet to be settled and this would impose severe operational limits on the aircraft. Problems of supportability could be expected especially as the TSC center - a centre set up to provide maintenance support - would take at least three years to be fully established. This was revealed by the general manager of the TSC when he said that,

> the setting up of the center would consume that amount of time as unlike before, Malaysia is treading into a new dimension with the acquisition of the systems and equipment from Russia which were of a different culture.\(^{12}\)

Furthermore, the RMAF has been used to Western equipment and it could not be certain that its pilots and maintenance technicians would get effective training from Russia. Attempts to offset this inadequacy by linking the Indian Air Force (IAF) and Hindustan Aerospace Industries only point to the inadequacies of the Russian deal. The relatively massive modifications to the airframe and engine (usually considered

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critical components of an aircraft) and the interface of Western avionics with Russian armaments are not only complicated but have never been done before. All these complexities cannot help but raise doubts as to the viability of the MiG-29 weapon system. There are no doubts that the RMAF should be able to operate the new acquisition with a fair degree of competency, but whether in the long term it will be able to achieve high operational effectiveness remains to be seen.

The acquisition of the MiG-29 is also contrary to the aspired central theme of a 'leaner but meaner' air force. As stated by the Chief of the RMAF, Lt. Gen. Ghani Aziz, 'our challenge is to make the RMAF a professional force, small though it may be, but respected by friends and enemies'. Acquiring a multi-role aircraft that can perform a variety of roles would be seen as an appropriate choice to fit snuggly into the 'leaner and meaner' concept. The multi-role aircraft has not only the advantage of minimizing overall budgetary cost but is also considered a logical response to address the current acute manpower shortage in the RMAF. The MiG-29 is designed primarily as a dedicated air superiority fighter. Its strike capabilities are far more limited than the US F-16, F/A-18 and the French Mirage 2000. As observed by Steven Zaloga,

Russian doctrine has favoured single-role aircraft since training constraints make it impractical to expect Russian pilots to become equally adept at fighter and strike skills.

It was precisely the limited strike capability of both the MiG-29 and the Hawks that prompted Malaysia to incur more costs by purchasing the FA/18D aircraft to remedy the weakness in its strategic strike capability.

There is little doubt that the strong intention to buy 'Russian' despite the complexities in the MiG-29 deal was motivated by political and economic considerations rather than mere military evaluation of aircraft performance (notwithstanding the fact that the RMAF has conducted an evaluation study of the MiG-29). The decision to buy the MiG-29s must also be seen in the overall context of the US-Malaysia relationship. At that time, the relationship between Washington and Kuala Lumpur did not seem congenial because of the US opposition to the Malaysian Prime Minister, Dr. Mahathir Mohamad's EAEC proposal. The choice of the MiG-29 over an American equivalent might be regarded as a retaliatory response to the EAEC opposition and also as a 'signal to the United States that Kuala Lumpur has other options'. Furthermore, the relatively low cost and the easy payment terms made the deal attractive. The economic benefits from the transfer of technology arrangement were also hard to resist. It is therefore not an overstatement to say that political and economic considerations far outweigh purely technical ones in the choice of aircraft.

Thus it is clear that arms procurement for the RMAF, particularly during the 1990s, is a complex process as the politics behind the procurement decisions can influence the types of air power assets for the RMAF. As has been pointed out, when there is a conflict of interests in the selection of aircraft, it is the political and

16 J.N. Mak, p. 144.
economic interests that will eventually override service interests. This does not mean
that the political masters do not take cognizance of service interests, but that they have
a broader perception of national security that includes technology transfer and
industrial development as goals to be considered. Aircraft performance, in such
circumstances will inevitably be relegated to secondary importance. Indications are
that the off-set arrangement will be an article of policy for future arms procurement.
According to the Defence Minister, Dato' Sri Mohd Najib, while commenting on the
Hawk contract in 1991:

The Ministry had been much buoyed by the success of this contract [Hawk]
with regard to off-set obligation, that such provisions would henceforth be a
standard feature of all other defence purchases.17

Under such circumstances, it is likely that future arms procurement for the RMAF will
be greatly influenced by this policy.

**Bureaucratic Politics**

Besides national level politics, bureaucratic politics within the Ministry of Defence
(MINDEF) can just as well affect the development of the RMAF. The Secretary
General of MINDEF is the head of the civilian department as well as the chief
executive of the armed forces procurement system. In MINDEF, the civilian
authorities are empowered to decide on many aspects of project management like
financial approval, budgeting, tendering of projects, awarding and signing of
contracts. As such military development projects are very much subjected to
bureaucratic controls with their implementation very much dependent upon the pattern
of civil-military relationship within the Ministry. There is the tacit acknowledgment
that the civil-military relationship in the Ministry has not always been at its best. In
fact when Tan Sri Nasruddin bin Bahari took office in 1988 as the new Secretary
General of the MINDEF, his objective was to improve what he termed as the ‘we
versus they mentality’ that had been plaguing the Ministry.18

Despite efforts to improve the civil-military relationship in the Ministry, it
appears that bureaucratic delays in implementing development programmes are still
prevalent. The recent grousings by the Air Force Chief over implementation of
development projects are reflections of the civil-military differences. There have been
many occasions when implementation of development projects has been delayed by
bureaucratic politics. For example, the plans to convert two C-130 aircraft into aerial
tankers has been unduly delayed. Submission for financial approval and eventual
awarding of contract for execution of development plans took two years, reflecting the
lengthy process that the RMAF had to endure. Although the approval has been given
for the conversion, the RMAF has yet to see the two tankers made operational. The
long delay, whether necessary or inevitable, has affected the RMAF development
plans in acquiring an air-to-air refuelling capability deemed important to its
operational readiness.

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18 Haji Syed Hussein, Exclusive Interview with Malaysia’s Defence Secretary General, *Asian Defence
The review of the RMAF's flying allowance was also long tussle. Plans to increase the flying allowance from a maximum of RM 880 to RM 1,500 were initiated in the late 1970s but it was not until 1995 that the matter was finally resolved. The long delay in solving this issue has taken its toll as the cumulative frustration of the pilots is now vented through decisions to retire early from the RMAF. This has caused an acute manpower shortage which is affecting the current expansion of the RMAF. According to the Chief of the RMAF, Lt. Gen. Abdul Ghani Aziz,

Presently the RMAF is short of 300 pilots as it is losing twice as many pilots as it could train annually. Between 30 to 40 pilots are trained every year but about 60 would resign.19

Other development projects that have been unduly delayed by the lethargy of the bureaucratic processes are the Hawk and MiG-29 simulators.20 These delays have interrupted pilot training as the original plan was to train the new Hawk and MiG-29 pilots using aircraft and simulators simultaneously. Without the simulators, aircraft have to be used for pilot training. This not only means prolong training time but also higher training costs, ultimately affecting the development budget of the RMAF.

On the surface, bureaucratic delays in implementing the RMAF development projects may seemed trivial but the cumulative impact in the longer term can be detrimental to the overall development of the RMAF. This is not to suggest that civil-military differences and bureaucratic delays are ever present but that bureaucratic politics often acts more as a constraint than as a conducive to development.

INTER-SERVICE RIVALRY

Institutional politics is not confined to the politicians and bureaucrats overseeing the military, as within the MAF itself there are also interests to be defended. Although the RMAF has complete autonomy in command and control of its forces, the same cannot be always said in matters concerning its development. The RMAF has to compete with the Malaysian Army and the RMN for development funds. Although the MAF practices a tri-service concept, it is clear that the Army dominates in most matters regarding defence. This was the result of the Army playing the central role in the protracted CIW against the communist insurgents while the RMAF played only supportive roles. The dominance of the Army is likely to continue even though the armed struggle by the communist ended in 1989. The Army can still claim to have a role in internal security given the concerns over possible religious extremism, ethnic clashes, illegal immigrants, and the secessionist tendencies in Sabah. The perceived need to deal with a possible secessionist movement in Sabah21 has given the army a persuasive rationale for further expansion. In this respect, the formation of the Rapid Deployment Force (RDF), principally formed as a contingent force to react to

21 For example, it was alleged that Parti Bersatu Sabah, the ruling party in Sabah then, had plans to turn Pulau Balambangan into a military training centre for secessionists as part of the move to pull Sabah out of Malaysia. See Koding's Allegation Baseless, Says PBS' official, New Straits Times, 27 May 1993.
secessionist tendencies in Sabah, can be seen as the Army's attempts to cling on to its traditional dominance by emphasizing new responsibilities.

There are elements within the Defence Ministry that argue that the traditional dominance of the Army should give way as the MAF transforms itself into a conventional force. In fact, steps have been initiated to erode the dominance of the Army. The Minister of Defence, Dato' Sri Mohd Najib, in September 1994 announced that the 'future Chief of the Armed Forces could be chosen from the RMN or from the RMAF'. This new initiative was in line with the ongoing transformation of the MAF into a conventional force which emphasizes a combined arms approach to warfare. This approach was reiterated by Defence Minister Dato Sri Najib in his Keynote Address at the Air Power Conference in Kuala Lumpur in 1994:

I believe it is futile for the Services to argue which of the Services is more important. To me one cannot exist without the other. Each Service could win their own battles, but certainly not the war ... We must work towards the notion of jointness or oneness ... We should discard old mentalities, and of service-centric, and now think of togetherness. We cannot afford to be army-centric, navy-centric or even air Force-centric. What we need is to be MAF-centric.

Another measure taken to erode army dominance in the MAF is the efforts to upgrade the posts of the Chief of the Navy and the Chief of the RMAF from the rank of Lieutenant General to full General. The Armed Forces Council, the highest policy decision making body in the MINDEF, has reportedly given its approval. The matter is now with the Public Services Department for formalization and will be presented to the Cabinet for its final decision. Although these changes have not materialised at the time of writing, it does give an indication that steps are being taken to erode the traditional dominance of the Army in the MAF. While these initiatives may be logical, the Army is not going to surrender its dominance easily, as indicated by strong arguments against such changes from the senior commanders of the Army. Thus unless changes to the post of the Chief of the MAF as well as the ranks for the Chiefs of the Air Force and the Navy are effected, Army dominance in the MAF will remain for sometime to come.

Given the Army dominance in MAF affairs, inter-service rivalry will more often than not act as an institutional constraint to the development of the RMAF. A good example of the complexities of inter-service rivalry where the Army dominance has affected development of the RMAF was the MOU with Britain in 1988. Originally included as key elements in the MOU were the Tornado fighters. However, it was reported that the Army was unhappy over this particularly because the purchase of the Tornados would effectively mean a reduction in funding for the two main army

23 Dato' Sri Mohd Najib, Keynote Address at the Air Power Conference, p. 4.
25 For example the Armed Forces Chief, General Datuk Ismail, the Army Chief, General Datuk Che Mohd Nor and even the outgoing Chief of the Armed Forces, General Tan Sri Borhan have all argued that the post of Chief of the Armed Forces be retained for the Army. See Juhaidi Yeab Abdullah, 'Top Armed Forces Post in for Change?', The Star, 19 September 1994 and Borhan: 'Why Army Must Take the Lead', The Star, 30 January 1995.

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training base projects of Gemas and Mersing. Consequently the Tornados were cancelled and the Gemas and Mersing projects were restored with their original funding. Although cost may have been the official reason for the removal of the Tornados from the MOU, institutional politics clearly had played a part.

But to generalise that the army dominance can stifle the development of air power in the RMAF can be an overstatement at times. As has already been pointed out, the RMAF’s development with regard to its transport support role in the early part of its history has been primarily driven by the Army’s needs for mobility in CIW. It is on occasions when the Army’s interest is well served that the RMAF can expect least opposition to its development. The purchase of five Super Hercules C-130H in 1995 was due mainly to the need to support the Army’s newly formed RDF and the Peace Keeping Missions stationed abroad. The rapid formation of the Strategic Airlift Command by the RMAF in 1996 points to the fact that development of the RMAF is, to a certain extent, influenced by the Army and cannot be regarded as wholly independent initiatives. Even though the MAF is currently transforming into a conventional force, the RMAF will still remain essentially a supporting service. There appears to be no alternative for the RMAF but to accept institutional politics as one of the constraints to its independent development.

On the whole, the ‘politics’ factor has often been a constraint to air power development in the RMAF. At the national level, it appears that civilian dominance in the public decision making process will persist and the political masters’ perception on national security, often far broader in considerations, will continue to play a significant role in the RMAF development. Conflict of interest will continually surface in the selection of weapon systems for the RMAF, and under such circumstances, national priorities are likely to prevail particularly during periods when security threats are difficult to identify. At the lower hierarchy, institutional politics again will act as constraints rather than as catalysts to the development of air power in the RMAF. Nevertheless, as the MAF gradually transforms itself into an integrated conventional force, the constraining influence of inter-service rivalry will inevitably decline in severity.

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26 It was reported that had the Tornados been purchased, the RMAF would have consumed about RM 4 billion leaving RM 1 billion to be shared by the Army and Navy. See “The MOU and the Tornados - What is Happening?”, Asian Defence Journal, June 1990, p. 110.
27 David Saw, ‘No to Tornado’, p. 104.
CHAPTER VI

CONCLUSION

This study has sought to trace the nature of air power development in the RMAF as well as examining of the factors that have played a part in shaping its force structure. Besides providing an understanding on how and why air power in the RMAF developed in the way it has, it attempts to establish the basis of its development. Unlike other air forces, air power development in the RMAF shows a pattern that is peculiar to its own political, economic and security imperatives. Essentially it started off as a CIW air force but over the years it has been transformed into a conventional force reflective of a tactical air force. The RMAF’s road map to its present posture has not been straightforward but is the outcome of a complex interplay of various deterministic factors.

From its inception in 1958, prevailing policy dictates and threat realities effectively precluded the RMAF from adopting any paths of development other than that of meeting internal defence requirements. In this connection the ‘internal defence’ policy, the consequence of the AMDA negotiations and the communist insurgency come to the fore. It meant that the RMAF could have no options other than that it should be organised and equipped with the capabilities to meet CIW needs. Immediately after independence in 1957, Malaya’s primary concerns were to safeguard the security of the nascent state and uplift the socio-economic livelihood of its people. With scarce economic resources and the limited capabilities of its armed forces, the government deemed it practical not only to entrust external defence of the country to the British but also to give higher priority to socio-economic development. These overarching imperatives explain the limited scope and growth of the RMAF in terms of air power capabilities during its formative years.

During this early period, air power development in the RMAF was wholly directed towards meeting the internal security needs by providing air mobility for the Army and the Police in countering the prevailing communist insurgency. Procurement programmes were concentrated on acquiring fixed and rotary wing transport aircraft to cater for the air transportation needs for the COIN campaigns. The formation of Malaysia, the rise in insurgency threat in East Malaysia after the Indonesian Confrontation, and the worsening internal security situation in West Malaysia further strengthened the emphasis on developing the RMAF into an air transport force. The protracted struggle against the communist insurgents had resulted in the deeply entrenched CIW orientation of the RMAF’s development, a legacy that was to remain for more than three decades.

It was no accident therefore that the RMAF was to a large extent structured and organised along the roles of air power in CIW. In CIW, it is the air transport support rather than offensive air support roles that are more significant. Counter air,
CAS and BAI obviously could not fit into the CIW environment. In such an environment, the RMAF could only play a supportive role in the nation’s defence as air power truly has no major roles in CIW. The imbalanced force structure of the RMAF until the early 1970s, reflected by the preponderance of air transport assets, indicates that its development was a direct response to the internal security needs of the nation rather than one derived from a comprehensive air strategy. This fully supports the first proposition of this study that the initial development of the RMAF was largely a mere response to meeting the internal security needs of the nation.

From being an essentially tactical airlift oriented air force, the RMAF was given an independent role when an air defence capability was introduced in the early 1970s. This was the consequence of the ‘self-reliant’ defence policy adopted by the Malaysian Government in the late 1960s. The British military withdrawal from east of Suez in 1969, the termination of AMDA, the lack of faith in the FPDA and the new foreign policy of ZOPFAN were the principal reasons that persuaded the Malaysian Government to opt for a more independent approach towards defence matters. This meant that there was an increasing need to transform the MAF from being a force designed to deal with internal security into a much more credible organisation capable of countering any form of limited aggression. Apart from bringing about a more independent outlook in defence matters, the British withdrawal from the region created an air defence gap that needed to be addressed in the light of the perceived threats from the Philippines and Singapore. It was inevitable for the RMAF to be given the primary role of defending the nation’s airspace. This marked the beginning of a conventional build-up in the RMAF.

The conventional build-up during the mid-1970s, was a response to the ominous development in the strategic environment. The 1969 Nixon Doctrine had laid the basis for the American withdrawal from Southeast Asia. The fall of Saigon in 1975 to the communist forces, the Vietnamese invasion of Cambodia in 1978 and the deployment of the Soviet strategic forces in Danang and Cam Ranh had precipitated a perception that the balance of power had shifted in favour of the communist forces. The perceived communist expansionist tendencies against the backdrop of a waning American military presence had created concerns about the prospects of peace and stability in the region. The possible use of force to invade another Southeast Asian country with a superpower as a guardian cannot but strengthened the perception that the likely march southwards by the Vietnamese would pose the greatest security challenge to Malaysia. These developments in the strategic environment not only provided a strong impetus for expansion but also prompted a shift in development orientation to that of a conventional approach. Arms procurement was consequently focused on acquiring more firepower capabilities for the RMAF to strengthen Malaysia’s defence in the wake of the perceived Vietnamese territorial aggrandizement ambitions.

The promulgation of the Malaysian EEZ in 1980 further spurred the conventional build-up of the RMAF. The need to assert sovereignty and resource protection over these new maritime areas coupled with the need to enforce claims over the islands and atolls in the disputed Spratlys triggered the acquisition of maritime air power assets. In spite of these developments, the RMAF still had not completely freed itself from the dictates of CIW as there was still the need to contain the insurgency threat caused by the upsurge in insurgent activities. Thus the RMAF’s role in CIW still had to be maintained despite the looming external threats.
Air power development during this period included qualitative enhancement in CAS, airlift, maritime surveillance and photographic reconnaissance capabilities. This represented the first phase of the conventional build-up but its progress was severely interrupted by the economic recession, the emphasis on the Doctrine of Comprehensive Security as well as the reduced sense of threat from Vietnam in the mid 1980s. It was evident therefore that the primary force driving the first phase of the RMAF’s conventional build-up was the perceived external military threat posed by Vietnam, and to a lesser extent, the perceived threat emanating from the conflicting claims in the Spratlys. This indicates that air power development from the mid-1970s onwards was based more on threat perceptions than on expediency.

The second phase of conventional build up did not start until the 1990s when improvement in the Malaysian economy enabled the RMAF to resume its development programmes. Air support capabilities like CAS, BAI, airlift and maritime surveillance were greatly enhanced. Air defence capability was given qualitative improvement with the procurement of the MiG-29s and Martello air defence radar. Most significant was the decision to introduce the deep interdiction and strategic strike platform of the F/A-18Ds. In short there were comprehensive efforts to further address the imperfections of the CIW structure by giving it more combat capabilities to prosecute the air campaigns of control of the air, strategic strike and air support.

The factors that provided strong impetus for the second phase of the RMAF’s conventional expansion are diverse, but certain broad trends can be identified. In the 1990s, the strategic environment in Southeast Asia is in transition and characterised by uncertainty. The end of the Cold War has brought about a draw-down of US and Soviet forces in the region. The threat situation has also changed dramatically. The regional communist threat, high on the security agenda a decade ago, has receded considerably. The Vietnamese threat had fast diminished, marked by its withdrawal from Cambodia in 1989 and its admission into ASEAN in 1995. Within the country, the official termination of the communist armed struggle in 1989 signaled the end of the protracted CIW. The lack of readily identifiable threats in the immediate term and the uncertainty over the shape of the regional order over the long term means that the strategic environment does not provide adequate impetus for the current RMAF force expansion. Even the perceived assertiveness of the regional powers has little influence on the second phase of the RMAF’s conventional expansion.

In the light of these developments the current RMAF expansion can be said to be attributed to the combination of planning for lower level threats emanating from near neighbours and also as part of an evolutionary process. The outstanding territorial disputes, and the perpetual suspicious relationship with neighbours together with the rapid development of military capabilities in the neighbouring states have taken new prominence after the end of the Cold War. Thus the need to address the military imbalance and attain strategic parity with neighbours is part of the motivation for the current RMAF expansion. Meanwhile, the need to enforce claims in the Spratlys, the need for resource protection in the Malaysian EEZ and the need to secure the SLOC’s still remain. There is also the inevitable need to replace obsolete weapon systems and equipment and catch up with technological advances in air power capabilities. In the overall assessment, no single factor by itself can act as the main driving force for the current RMAF build-up. The regional strategic environment is too complex and Malaysia’s security relationship with her neighbours too varied to permit anything but
a general explanation. Nevertheless the forces driving the current expansion can be attributed to the synergistic influence of the perceived threat from near neighbours and the push for a conventional build-up.

On the whole, it can be argued that air power development in the RMAF was initially a response to the internal security needs of the nation. From the mid-1970s onwards development was driven by threat perceptions, with the period of the 1990s driven mainly by lower level threats emanating from near neighbours. After more than three decades of development, the RMAF has effectively transformed itself from a CIW air force into a tactical conventional air force. Its force structure has become more balanced with a good mix of control of the air, strategic strike and air support capabilities, consistent with modern thinking on the employment of air power for limited conventional war.

It can be expected that future development will continue to be affected by the political masters' perception of national security with weapons procurement decisions closely tied to the policy of off-set arrangements. Civil dominance in the public decision making process will continue to play a significant role in the development of air power in the RMAF. Apart from these broad influences, indications are that institutional politics will also continue to act as constraints on the development of air power in the RMAF. Bureaucratic delays in the implementation of development projects are to be expected. The RMAF is unlikely to achieve total autonomy in all its affairs, at least for sometime to come, given the traditional dominance of the Army in the MAF. There is no doubt that with future development predicated along the conventional approach, the RMAF will progressively have a bigger, if not a more decisive, role in the nation's defence.
# APPENDIX A

## RAF AIR POWER DEPLOYED DURING THE
**INDONESIAN CONFRONTATION**

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Base</th>
<th>Detachment</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Javelin F9</td>
<td>Tengah</td>
<td>Labuan/Kuching</td>
<td>Air Defence</td>
</tr>
<tr>
<td>Hunter GA9</td>
<td>Tengah</td>
<td>Labuan/Kuching</td>
<td>Air Def/GA</td>
</tr>
<tr>
<td>Canberra PR7</td>
<td>Tengah</td>
<td>Labuan/Kuching</td>
<td>Photo/Recce</td>
</tr>
<tr>
<td>Canberra B15</td>
<td>Tengah</td>
<td>Labuan</td>
<td>Offensive Strike</td>
</tr>
<tr>
<td>*Canberra B12</td>
<td>Tengah</td>
<td></td>
<td>Offensive Strike</td>
</tr>
<tr>
<td>Beverly C1</td>
<td>Seletar</td>
<td>Labuan</td>
<td>Air Transport</td>
</tr>
<tr>
<td>Argosy C1</td>
<td>Changi</td>
<td>Labuan</td>
<td>Air Transport</td>
</tr>
<tr>
<td>*Bristol Freighter</td>
<td>Changi</td>
<td></td>
<td>Air Transport</td>
</tr>
<tr>
<td>Hastings C1/2</td>
<td>Changi</td>
<td>Labuan</td>
<td>Air Transport</td>
</tr>
<tr>
<td>Valetta C1</td>
<td>Butterworth</td>
<td>Labuan</td>
<td>Air Transport</td>
</tr>
<tr>
<td>Twin Pioneer</td>
<td>Seletar</td>
<td>Various Air Strips</td>
<td>Air Transport</td>
</tr>
<tr>
<td>Shackleton MR2</td>
<td>Changi</td>
<td>Labuan</td>
<td>Maritime Recce</td>
</tr>
<tr>
<td>Belverdere HC1</td>
<td>Seletar</td>
<td>Kuching</td>
<td>Heli Transport</td>
</tr>
<tr>
<td>Whirlwind</td>
<td>UK</td>
<td>Various Air Strips</td>
<td>Heli Transport</td>
</tr>
<tr>
<td>Sycamore</td>
<td>UK</td>
<td>Various Air Strips</td>
<td>Heli Transport</td>
</tr>
<tr>
<td>Bloodhound SAM</td>
<td>Seletar</td>
<td>Kuching</td>
<td>Air Defence</td>
</tr>
</tbody>
</table>

Key:  
- GA - Ground Attack
- PR - Photographic Reconnaissance
- *Royal New Zealand Air Force aircraft attached to No. 224 Group RAF for the Campaign.

## APPENDIX B

### RMAF AIR POWER ASSETS - 1975

<table>
<thead>
<tr>
<th>No.</th>
<th>Aircraft Type</th>
<th>Role</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>F5E</td>
<td>Air/Def</td>
<td>Ltd FGA</td>
</tr>
<tr>
<td>2</td>
<td>F5B</td>
<td>Air Def/Trg</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>CL41G</td>
<td>CAS/Trg</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Caribou</td>
<td>Transport</td>
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</tr>
<tr>
<td>6</td>
<td>Herald</td>
<td>Transport</td>
<td></td>
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<tr>
<td>2</td>
<td>Heron</td>
<td>Transport</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>HS125</td>
<td>VIP Transport</td>
<td></td>
</tr>
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<td>2</td>
<td>F28</td>
<td>VIP Transport</td>
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</tr>
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<td>16</td>
<td>Nuri</td>
<td>Transport</td>
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<td>25</td>
<td>Alouette</td>
<td>Transport</td>
<td></td>
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<td>20</td>
<td>Bulldog</td>
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<tr>
<td>14</td>
<td>Cessna</td>
<td>Advance Trg</td>
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</tr>
<tr>
<td>6</td>
<td>Bell 47G</td>
<td>Heli Trainer</td>
<td></td>
</tr>
</tbody>
</table>

**Key:**  
Def - Defence  
FGA - Fighter Ground Attack  
Trg - Trainer  
CAS - Close Air Support

**APPENDIX C**

**VIETNAMESE AIR POWER ASSETS - 1978**

<table>
<thead>
<tr>
<th>Category</th>
<th>No.</th>
<th>Aircraft Type</th>
<th>Role</th>
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<tbody>
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<td>120</td>
<td>MiG-15/17</td>
<td>FGA</td>
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<td></td>
<td>30</td>
<td>SU-7</td>
<td>FGA</td>
</tr>
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<td></td>
<td>80</td>
<td>MiG-19</td>
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</tr>
<tr>
<td></td>
<td>70</td>
<td>MiG-21</td>
<td>Air Defence</td>
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<td>An-2</td>
<td></td>
</tr>
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<td>4</td>
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</tr>
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<td>10</td>
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<tr>
<td></td>
<td>9</td>
<td>Mi-8</td>
<td></td>
</tr>
<tr>
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<td>Yak-11/18</td>
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<tr>
<td>Personnel</td>
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Key: FGA - Fighter Ground Attack

### APPENDIX D

**COMBAT AIRCRAFT OF MALAYSIA, SINGAPORE, INDONESIA AND THAILAND - 1990**

<table>
<thead>
<tr>
<th>Country</th>
<th>F-16</th>
<th>F-5</th>
<th>A-4</th>
<th>Hunter</th>
<th>AEW</th>
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<td>Malaysia</td>
<td>14 F-5E</td>
<td>2 RF-5E</td>
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<td></td>
<td>4 F-5F</td>
<td></td>
<td></td>
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<tr>
<td>Singapore</td>
<td>4 F-16A</td>
<td>31 F-5E</td>
<td>6 A-4S</td>
<td>24 FGA</td>
<td>4 E-2C</td>
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<td></td>
<td>4 F-16B</td>
<td>9 F-5F</td>
<td>13 TA-4S</td>
<td>4 FR</td>
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<td>Indonesia</td>
<td>5 F-16A</td>
<td>10 F-5E</td>
<td>26 A-4E</td>
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<td>4 F-16B</td>
<td>4 F-54</td>
<td>2 TA-4E</td>
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<td>40 F-5E</td>
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<td>4 F-16B</td>
<td>3 F-5F</td>
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<tr>
<td></td>
<td></td>
<td>3 RF-5A</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>3 F-5F</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>9 F-5A</td>
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</table>

**Key:**  
- FGA - Fighter Ground Attack  
- FR - Fighter Recce

## APPENDIX E

### RMAF AIR POWER ASSETS - 1995

<table>
<thead>
<tr>
<th>No.</th>
<th>A/C Type</th>
<th>Role</th>
<th>Remarks</th>
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<td></td>
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<td>Hawks</td>
<td>CAS/Trg</td>
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<td></td>
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<td>Aermacchi</td>
<td>CAS/Trg</td>
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<td>Sur and Recce Aircraft</td>
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<td>Maritime Sur</td>
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<td></td>
<td>2</td>
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**Key:**
- IDS - Interdiction Deep Strike
- CAS - Close Air Support
- Trg - Trainer
- Sur - Surveillance
- Strat - Strategic
- Tact - Tactical
- Wpn - Weapon

**Note:** MiG-29 and F/A 18 are updates by author.

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'Warning Would Have Come Too Late', The Star, 24 May 1994.


66
The venerable Scottish Aviation Twin Pioneer STOL light transport aircraft.

De Havilland Chipmunk - an English basic trainer
A Hunting Provost - a piston engined trainer from the United Kingdom

A Scottish Aviation Single Pioneer - a versatile observation post
A De Havilland Heron light transport.

A De Havilland Dove light transport
A Handley Page Dart Herald

A Canadair CL41 Tebuan light attack/trainer aircraft
A Bell 47 Sioux helicopter

A Sikorsky S61A Nuri which could be armed
The French Alouette general purpose helicopter

The Commonwealth Aircraft Corporation CA27 Sabre
The DHC4 Caribou STOL transport aircraft

The Grumman HU16B Albatross amphibian
The maritime reconnaissance version of the C130 Hercules

A standard C130H Hercules
The Northrop F5E Tiger II fighter

The reconnaissance version of the F5
The Douglas A4E Skyhawk

The Hawker Siddeley HS125 executive jet transport
The Scottish Aviation Bulldog basic trainer

The Pilatus PC7 trainer from Switzerland
The GAMD Falcon 90 from France

The Augusta AS61ND reconnaissance helicopter
The Augusta A109C communications helicopter

The AS 332C Super Puma - the largest TUDM helicopter
The Cessna 402B light communications aircraft

The Beechcraft B200 light transport aircraft
The MiG-29 from Russia