



Diminishing Relevance: Emergent Air Forces at the Cross Roads

by Sanu Kainikara

AUTHOR'S FOREWORD

Air power has a short history compared to other forms of force projection. In contrast it has also crammed its one century of existence with more innovations and brought about more changes to the conduct of warfare than any other form of warfare in a comparable time frame. Air power has grown from infancy to maturity in a remarkably short period of time.

In a similar vein, the socio-politico-economic make up of the world has been rapidly transformed in the nearly 60 years since World War II. The world has changed from the frozen bi-polar relationships of the Cold War era to one of flexible and unpredictable multi-polarity. From one of large but fading colonial empires to nation-states that are sometimes not economically or politically viable as independent entities. From a few strong military powers that controlled the world to large numbers of armed forces of varying military capability and from being comprised of economically stand-alone nations to an interdependent global economy. The aircraft was directly influential in narrowing the gap between nations and the subsequent evolution of a new global system.

Security perceptions have also undergone radical changes, especially in the past few years. Economic wellbeing has become one of the prime security paradigms that a government promises its citizens. Globalisation of economic interests has made security perceptions move away from the traditional geographically bound perceptions of national security. There is also a growing belief in the international community that threats to security are truly transnational and multi-dimensional, not merely military in nature. In the face of such diverse and intangible threats, the nations of the world are looking towards cooperative engagement to ward off the threats that are peculiar to one or the other state and contend with the combined threat in a cohesive manner.

In the rapid decolonisation that culminated in the formation of a large number of independent nations, military forces also underwent transformations in their size, intent and capability. In this scenario, independent air forces of different status levels came into being around the world to ensure national security with adequate military capabilities. A number of these air forces were employed effectively in limited wars throughout the Cold War era, mostly in the Middle East and the Indian subcontinent. On the other hand, an even larger number of these forces have never been anything more than showpieces offered as a sop to nationalistic pride by the government, maintained at enormous cost to the nation. This paper is particularly directed at the context of both these types of air forces. It emphasises the necessity for a nation to possess adequate air power capabilities in order to maintain a credible military force and the need to re-examine the viability of penny packet air power contingents. The prerequisite for air power to be an inseparable part of any credible power projection or deterrent capability is not debated but is reinforced as an unchanging paradigm.

Disclaimer

This working paper was originally published as an A5 booklet in July 2003 (ISBN 0642265836) and is presented here as a re-formatted printer friendly version.

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without permission from the publisher.

The views expressed in this work are those of the author and do not necessarily reflect the official policy or position of the Department of Defence, the Royal Australian Air Force or the Government of Australia. This document is approved for public release; distribution unlimited. Portions of this document may be quoted or reproduced without permission, provided a standard source credit is included.

ABOUT THE AUTHOR

Sanu Kainikara is a former fighter pilot of the Indian Air Force with 21 years of commissioned service and vast operational flying experience in a number of modern fighter aircraft. Currently he is a Deputy Director at the RAAF Aerospace Centre. Prior to this appointment he taught Aerospace Engineering at the Royal Melbourne Institute of Technology University and was a consultant to the Air Operations Division of DSTO, Melbourne. He is a regular contributor to defence related magazines and has published prolifically on air power and defence issues in the *Asia-Pacific Defence Reporter*, *Fighter Tactics*, *Australian Defence Force Journal* and *The Leading Edge*. He is also a contributing editor to the *Asia-Pacific Defence Reporter*.

Mr Kainikara is a graduate of the National Defence Academy, Defence Services Staff College and the College of Air Warfare and also holds a Master of Science in Defence and Strategic Studies from the University of Madras. He is currently in the final stages of completing a PhD with the University of Adelaide.

'If the instabilities of the 21st century world are calling into question the nature of global society and the role of the military in future conflict, they are, as well, highlighting the extraordinary significance of the aerospace medium. Whether simply for intelligence, surveillance and reconnaissance; or for mobility; or for presence; or for direct attack, joint service and coalition aerospace forces are the true 'core capability' required of both major powers and alliances of smaller nations acting as major powers.'

Dr Richard P. Hallion

INTRODUCTION

Air power enthusiasts claim, not without reason, that the 20th Century has been shaped by air power. If the history of mankind is viewed from the perspective of warfighting, this may indeed be the case. Since the introduction of the balloon to warfare in 1794, and the first combat involving aircraft in 1911, aviation and air power capabilities have profoundly influenced global security perceptions and national security imperatives both directly and indirectly.¹

World War II demonstrated the effectiveness of air power in becoming the rapier for the piercing thrust, as well as the heavy hammer for bludgeoning the opposing forces. In the post-war period, exploitation of air power capabilities became the driving force behind all strategic thought in the NATO alliance and in the Soviet Union. Both the super powers spent the entire Cold War period developing methods to control and contain the force projection capabilities produced by innovative employment of aerospace technology. The 'Revolution in Military Affairs' itself was comprehensively linked to air power projection and denial capabilities.

The nuclear standoff between the two super powers did influence the development of air power, especially in doctrinal aspects. However, the impact of nuclear deterrence was not felt directly by smaller nations who continued to develop conventional warfare capabilities. The impact of nuclear weapons on air power capabilities has therefore not been evaluated in this paper. In the recent past there has been a proliferation of Weapons of Mass Destruction (WMD) in many parts of the world. Once again, this trend has not impacted directly on air power *per se*, but has indirectly increased the importance of air power competencies as precision strike options against such proliferation. Since WMD does not directly affect air power development, the issue has not been analysed in depth in this paper.

The 1991 Gulf War and the wars in Bosnia and Serbia were all built around air power systems. The recently concluded conflict in Iraq, although not entirely fought around air aspects, endorsed the basic air power competencies required to win a war. More than the efficacy of air power these conflicts reflect the extraordinary power that exudes from effective coalitions.

Air power has been effectively linked with the other classic technological 'revolutions' that have transformed the basics of everyday life, computers and electronics. The information explosion that is taking place is also

inexorably linked to aerospace power and this link – already profound – will become even more pervasive in the future. Although there is general consensus that air power alone can not win a war, the corollary that it would be almost impossible to win a war without adequate air power capabilities is also accepted as an unassailable truth. There is no doubt regarding the primacy of air power in force projection.

A majority of air forces around the world have limited capabilities and some are in the throes of redefining their role vis-à-vis national security requirements. Under these circumstances, wherein technology is improving aerospace capabilities at a rapid pace, there exists a gap in the clear understanding of the effective employment of air power within smaller forces. The relevance of these smaller or emergent air forces has become a matter for debate in the broader aerospace community, not only because of the economic impact that any change to the current situation would create but also in consideration of the security repercussions that would emanate from it. Emergent air forces now face threats and challenges that are bound to transform the security scenario for smaller nations.

Limited or divided application of air force assets have always been viewed by planners as diminishing the holistic capabilities of air power as an entity and centralised control of all assets have been considered an inviolable axiom of campaign planning. The very existence of emergent air forces therefore questions the veracity of these beliefs. The geo-political imperatives that force smaller nations to opt for expensive but ineffective air power capabilities need to be examined to arrive at a solution to this dichotomy.

In the prevalent changing and unstable global security environment, it is only natural that some smaller nations feel more ill at ease and threatened than nations with more established military prowess. It is, therefore, a logical progression for them to strive to ensure the steadfastness of their own security and allocate the highest priority to their perceived security needs. Air power assets become very attractive acquisitions under these circumstances as a visible military capability. The viability of maintaining an air force with limited capabilities is at times ignored in the calculations and its effectiveness as a solution to security requirements therefore becomes extremely short-term.

The relevance of emergent air forces as they currently exist is, at best, doubtful. This paper looks at the reasons that demand continued support for these air forces and at the challenges that face them in their struggle for relevance. The political will of a nation to implement national security imperatives and the factors that influence the national resource allocation process are beyond the scope of this paper and have therefore not been examined. The paper suggests what could be considered an optimum, utopian solution to the multifaceted challenges that smaller nations face in continuing to maintain capable and independent air forces relevant to their unique national security requirements. The suggested path may indeed be the only possible way forward for them to continue as independent forces. However, the realities of inter-state relationships, both regional and international, make the adoption of the solution extremely difficult. These reasons have also been enumerated in the paper.

The paper is an attempt at drawing attention to the extreme precariousness of the conditions under which a large number of air forces currently operate and makes no effort to address the political decision-making apparatus that are probably the primary cause for the uncertainties.

SECTION 1: THE EVOLVING PRIMACY OF AIR POWER

The global power equation and the political alignment of nation states are changing dramatically not merely as a result of the end of the Cold War almost a decade ago, but also because of the entry of non-state organisations into the strategic equation. The current emerging global system is populated by an increasing number of these non-state players intent on enlarging their areas of influence and at times even struggling to take over or mutate into de facto states. The world is slowly but inexorably being drawn into an era of turbulence wherein the global order will move away from the Westphalian model into an order ruled by diverse kinds of politico-economic and politico-religious compulsions. The complexity of this new order is extremely high and the changes that characterise the prevalent order take place at a pace that is constantly becoming faster.²

There is considerable debate today regarding the changing 'world order' post September 11 and the global 'War on Terrorism'. In a classic case each world order has a pattern of periodicity that can be seen in terms of three simple phases – growth, stagnation and decline. These phases are closely linked to waves of global warfare and the associated rise and fall of great power states. Viewed in this light, world orders can be described as a global process of four successive phases – growth, hegemony, challenge and decline.³ Translated to world order periodicity, hegemony and challenge would be encompassed in the stagnation phase. These phases and the changes that great wars bring about have traditionally been studied in terms of nation states.

In the emerging global situation there is increased likelihood of a war being fought against an ill-defined non-state enemy and the formative influence such wars would have on the world order will need to be closely examined before the nation-state model can be applied to the current scenario. There is, however, a common thread between the world order and the status of nation-states, the most obvious being the fact that global threats have always tended to force greater and lesser powers to become military allies and form coalitions. By virtue of the combined struggle against an enemy the coalition partners tend to assume a common identity as 'friends' against a common 'foe' and world politics have always been understood and shaped by this common experience. Throughout history a pre-eminent nation-state is seen to emerge from each winning coalition and the key to a stable world order lies in the moral influence this pre-eminent state can exert on other states. The pre-eminence of any such power is also directly related in equal measures to its military and economic potential to back the moral authority that it is capable of asserting on other states.

Such authority and potential to influence world events flows not only from the military and economic capability of a nation-state but also from its willingness to employ force, both diplomatic and military, as a means to achieve political and economic objectives. In the recent past coercive diplomacy with the implicit threat to use military force is at one extreme of the diplomatic spectrum.⁴ This can only be followed by the actual use of military force. Use of military force in a state-on-state manner should logically lead to a declared state of war between the antagonists, but this simplistic equation has been greatly complicated in modern times. Since the end of World War II, there have been wars fought around the globe almost constantly, yet paradoxically none of the nations involved have declared war on each other. The reasons for this situation are many and varied, but the use of force to achieve political, religious and economic aims as well as to further national security imperatives continues unabated.

The lead up to World War II saw a great deal of debate regarding the efficacy and efficiency of air power, as well as the moral and legal implications of strategic bombing as a war winning force. The various campaigns of World War II conclusively demonstrated the validity of the beliefs of earlier air power theorists that air power, both tactical and strategic, would be the single most important factor in determining the outcome of any conflict. After the War, both the United States and the Soviet Union correctly assessed the doctrinal capacity of air power to be at the cutting edge of deterrence as well as at the vanguard of any military engagement. This newfound understanding of the inherent characteristics of air power fitted well with the posturing of the super powers during the Cold War and led to it being conceived as the foremost force projection tool. Technology and doctrinal understanding had combined to ensure that air power development and deployment would take precedence over other force projection capabilities.

The United States emerged from World War II as one of two pre-eminent powers in the world. The Communist regime in the USSR was the other that challenged the United States for the mantle of world leadership. The collapse of the Soviet Union in the early 1990s and its subsequent break-up into a number of independent

republics abruptly altered the status quo that had stabilised the world for almost half a century, propelling the United States to an unchallenged position of pre-eminence on the world stage. Under these conditions the United States is assured of unquestioned world leadership in terms of the military and economic power that it can bring to bear at least for the next two or three decades. It is the only nation today that can truly claim super-power status.

Since World War II, warfighting concepts and global perceptions of power projection have undergone radical transformation. Beginning as a gradual process in the 1970s, these changes had gathered sufficient momentum by the early 1980s to be labelled a Revolution in Military Affairs (RMA). Subsequently the rate of transformation has further accelerated. A number of factors were involved in this rapid change, the main being technological innovations that gave unprecedented improvements to the firepower and destructive capabilities of conventional weapon systems. The inherent qualities of flexibility, ability for rapid reaction and extreme long range of air power made it ideally poised to derive the maximum benefit from these developments. Air power capabilities are both reliant on and driven by technology, thereby ensuring that those capabilities were well placed to comprehensively assimilate new technologies. The impetus thus gained propelled air power rapidly to the forefront of power projection capabilities.

The Cold War was marked by unprecedented development in military capabilities around the world, partly brought on by the competitive nature of super power relations. Air power benefited the most during these years and its capabilities were continually refined and enhanced. From a political perspective, almost all independent nations either built up or aspired to build viable air forces with unfettered assistance and aid from one or the other super power. This led to a proliferation of penny packet air power capabilities spread across the globe. These small-stature air forces, even when operating as an integral part of an alliance, strived to achieve independent doctrinal development and a large enough spread of the capability spectrum sufficient to support their nation's security interests. The importance attached to the development of independent air power capabilities was highlighted by its extensive use in a majority of the limited wars that were fought in the second half of the 20th century. Until the early 1990s, small, regional but independent air forces were viewed as an essential part of the military make up of the world in keeping with the status of independent nation states.

At this stage, two global events changed the perception regarding the viability of smaller regional air forces and the basic concepts of the employment of air power. First was the collapse of the Soviet Union and its break up into fragmented republics that did not have economic, social or political stability. The Russian Federation that inherited the mantle of the Soviet Empire was beset with politico-economic problems and therefore was not able to maintain either the necessary military power projection capability or the military industrial production capacity needed to continue fostering the smaller air forces. Since a large number of developing nations were almost completely dependent on Soviet largesse to maintain their armed forces with any semblance of operational viability, the sudden withdrawal of unconditional Russian support led to a sharp decline in the effectiveness of these armed forces. Being technology driven and equipment intensive, air forces were the most affected.

The second event had an even more long-term effect on the doctrine and operational concepts of smaller air forces regarding utilisation of air power. The 1991 Gulf War brought into focus the giant strides that the United States had made in all aspects of air warfare. While broadly keeping to the classic roles of air power, the United States Air Force (USAF) demonstrated to the world a completely new and devastating use of air and space power capabilities. The campaign gave a new meaning to the Air-Land battle concept and forever changed the way air power would be employed in war. From doctrine at the highest level to the tactical application of air power at the lowest level, a revolution was demonstrated. This revolution in the application of air power stemmed from the availability of high technology weapon systems, command and control capabilities, space-based intelligence and communications facilities and the optimised use of near real-time information. Technological superiority had never before been such a force-multiplier or so comprehensively been the war winning factor.

In the decade after the 1991 Gulf War, air power became the preferred choice of diplomacy and deterrence as well as the primary tool for offensive power projection in military operations. This was mainly because of the increased accuracy of attack afforded by the advances in weapon systems and in the weapon delivery capability

of the platforms involved, limiting collateral damage and keeping own casualties to the barest minimum. While the legal and moral aspects of aerial targeting and the use of air power in humanitarian intervention operations have become points of contention as matters of law and policy, it can not be denied that from a purely air power perspective, Operation Allied Force in Kosovo was an unqualified success.⁵ This clearly established the primacy of air power in prosecuting a successful campaign and achieving declared objectives, in this particular case even without the use of ground forces.

It does not automatically flow that air power by itself is capable of winning wars. Far from it. Undeniably air power is the basic prerequisite to winning any modern war, but it is dangerous to presume that air power alone can achieve all the objectives of a war at all times. Air power facilitates the optimum conduct of ground and maritime warfare.

Even the most vociferous critics of air power now accept that in order to be assured of success, wherever possible any campaign would have to start with a concentrated air offensive to ensure adequate control of the air. Air power has conclusively moved beyond being yet another military competency into becoming a holistic power projection capability within the realm of a seamless force. Under these circumstances it is not surprising that the world's only super power would also be the biggest aerospace power in the world and would build a force that is unrivalled in the history of aviation. The USAF's own views on the future of air power were summarised in a report prepared by the USAF Association in late 1993.

All the services respect air power. Across the spectrum of conflict, the nation now looks to air power as the initial and possibly (given the circumstances) the preliminary instrument of US force qualification. Air power is now widely recognised for the rapid results that it can now achieve, with the maximum exposure, casualties and force attrition....

The report went on to assert that there was a need for a balance of land, sea, air and aerospace forces.

Nevertheless, it is short-sighted not to recognise that careful, timely use of air power has emerged as a principal element in any multi-dimensional strategy – not necessarily the principal (that depends on the circumstances), but certainly a principal element....⁶

While air power has reached a position of primacy in power projection capabilities, its spread across the globe is uneven in quantity and quality. There are a number of air forces that have independent identities but do not possess even the vestige of being a force at the vanguard of military capabilities. Air power capabilities are complex criteria to understand, employ optimally and sustain at the right tempo in operations. This alone makes it both desirable to have and equally difficult to project in the pursuance of national security objectives. The smaller nations that have restricted air power capabilities face a number of threats and challenges to their existence as independent forces with adequate operational capability.

SECTION 2: EMERGENT AIR FORCES: THREATS AND CHALLENGES

In the last three to four decades the developments in air power have been extremely wide ranging and technology intensive. The direct effect has been that any ground breaking and innovative research in this field now requires a disproportionate allocation of resources in the initial phases. Because of this basic need, air power competencies have been almost entirely nurtured in the developed world with the United States taking the lead. This has further increased the disparity and emphasised the distinction in air power capabilities between the industrialised and developing world. It can now truly be said that air forces around the world fall into two categories; the USAF and the rest of the air forces.⁷

The air forces of the rest of the world can further be divided into two major groups. The first group is air forces of middle-power nations like France, UK, Russia, China, Japan and India that have genuine overall competencies in most of the core air power roles, and the second group is emergent air forces that do not possess comprehensive all-round capabilities. There are also a few middle-power nations that of their own volition choose not to maintain middle-power air forces. These are air forces that bridge the gap between the middle-power air forces and emergent air forces as a continuum between the two. They are highly capable in global and regional contexts, but do not possess adequate resource infrastructure or sustainability to become middle-power air forces. The air forces of Australia, the Republic of Singapore, Israel and Canada would fall into this category.

The primacy of air power in most armed conflicts is now an accepted fact. The next logical step therefore would be to assess the capacity of air forces to provide both role-oriented and capability-based support to the overall warfighting doctrine. In an honest analysis, the capacity for emergent air forces to provide the necessary overall competencies would be doubtful, or at best contextual, raising the question of their continued relevance in a wider perspective. The main reason for the less than optimum situation that a majority of air forces find themselves in is that they were historically developed in a different international security environment. They were operationally oriented in a more inward looking manner with limited and mostly reactive tactical employment concepts based on out dated or ill-defined doctrine.

The changes in air power concepts and application that have occurred in the past decade makes it imperative to review the role of these regional air forces and indeed debate their continued relevance in future conflicts. In order to carry out a comprehensive appraisal the following three basic questions need to be addressed.

- What are Emergent Air Forces?
- Why is this debate regarding their continued relevance necessary?
- What are the threats to smaller nations?

Emergent Air Forces Defined

There are four key factors that should be analysed to categorise air forces into the broad categories that have been discussed above. They are:

- Size
- Capability
- Context
- Doctrine

Any of these factors individually or in combination would give a clear indication of the status of an air force.

Size

Possession of a large fleet of aircraft and/or other equipment or having a large of personnel strength does not automatically elevate the status of an air force. Insufficiency in numbers leading to inadequate sustainability and sufficiency in the weight of attack and other capabilities would however restrain the consideration of an air

force as anything other than emergent. The classification of an air force purely on account of its size would be difficult since basing the competence and effectiveness of an air force on numbers alone would be tantamount to considering a spear wielding tribal army superior to a modern special forces unit on account of its numbers. The corollary to this is the contention that Lenin's famous dictum, 'Quantity has a quality all its own' should also be taken into account, especially if the disparity in the capability spectrum between the two forces being compared is not too large.

It would be simplistic to look at numbers in isolation and not deal with them in a relative manner in comparison with the size of the competition. After all, the use of force for whatever reason, is a test of relative strengths and therefore all other factors being equal comparative numbers would be a prime consideration in any planning endeavour. Another complicating issue is that an air force might be considered powerful in terms of numbers in a regional assessment but may not stand up to the same status in a global appreciation. When considering size, with other factors kept equal and constant, the impact would be relative dependent on the comparative strengths of the opponents.

There is a definite continuum between middle-power and emergent air forces based on their size, and it would be ideal to be able to put a mark at a certain number and hold it as the yard stick of transfer between the two. Unfortunately in the case of air power, and perhaps also in other power projection or enforcement tools, this ideal situation does not exist. There are far too many integral and extraneous factors that impinge on the assessment and therefore the size, actual or relative, would have to be considered a factor that could not be independently used to determine the categorisation of an air force.

Capability

There are a number of features that distinguish emergent air forces in terms of their capability spectrum and capability development infrastructure. The major features that impact capability are equipment, technology, training, attrition tolerance and sustainability. There are also constraints, almost all driven by economic considerations, that have a negative impact on the proper development of these features and constrain the growth of these air forces.

Equipment. The inability to acquire platforms and weapons systems of adequate sophistication in sufficient numbers to be effective leads to emergent air forces not being able to produce the necessary mass, both physical and virtual, in the employment of air power. Scarcity of resources within the national economy limits the quantity and quality of equipment that can be obtained and operated. Air power assets are by far the most expensive in the military arena and therefore smaller nations tend to either obtain fewer numbers or downgrade the procurement priority of these assets. The nation may even opt for lesser capable equipment to fit the requirement within the available resources. The categorisation of an air force would have to consider equipment availability in terms of total numbers and the associated logistics support as well as their operational capability.

Technology. There are three aspects to considering technology as a benchmark to assess an air force. First, the basic technological ethos of the nation, ie. the education system and its capacity to provide a technically well oriented work force both for the aviation industry and the air force. This aspect directly affects the research and development capabilities of a nation, which indirectly impacts on industrial development. The second aspect to be considered is the state of development of the indigenous industry. The capability of the local industry to support the operation of technologically sophisticated equipment will determine the air force's operational effectiveness. The subsidiary factors that have a bearing on the state of the industry are the availability of raw material, production and logistical adequacy and the level of self-sufficiency in industrial development. The third aspect is the impact of finite resources on the capability of the nation to develop self-sustaining high-tech industries with the necessary infrastructure to cater to domestic demands. The development of air power assets require very long lead times and lack of resources to sustain the necessary infrastructure for sufficient time would lead to the failure of any project. The alternative to indigenous production capability, stockpiling of weapon systems, is also entirely dependent on its economic viability and in most cases is negated by the scarcity of resources.

Training. The increasing technological sophistication of air power assets has made training in all aspects more intensive, technology oriented and expensive. There is also a need to optimise the performance envelopes of the

extant equipment by constant and on-going training regimes that add to the operational costs. The technology base of the nation has a direct bearing on the training, both for the maintenance crew and the operators. There have been instances of air forces that have procured high-tech weapon systems but have not been able to field them operationally because of the lack of technical know-how within the general population. The effectiveness of training, however well conducted, depends on the capacity of the trainee to understand the intricacies of the systems. In a technology intensive force this aspect takes on added impetus.

Attrition Tolerance. In recent times attrition has gained political, moral and media interest far in excess of the importance that was given to this aspect of warfare a few decades ago. This sensitivity to own, enemy and collateral attrition is universal purely dependent on the context of the conflict and is not peculiar to any one category of air force. From an academic air power point of view however, the capability of an air force to accept attrition, or the degree of 'attrition tolerance' it can sustain without diluting its warfighting capabilities, is an aspect that differentiates emergent air forces from the others. Attrition in this sense would encompass both combat platform attrition and human casualties and would not consider the moral aspects of attrition acceptability ethos of a nation. By virtue of their small size, limited industrial capacity and in most cases lesser numbers of trained personnel, emergent air forces would be hard pressed to accept more than a token attrition without it manifesting devastatingly as declining capability output. The loss of trained personnel would have a particularly singular effect on the operational capability of emergent air forces wherein the loss of a single senior pilot might mean a disproportionate loss of strike power in percentage terms. Platform attrition, if not made good, would also have an incremental effect on the operational efficacy. This situation can be somewhat ameliorated by alternative means of immediate resupply from allies and friendly countries. In the order of impact evaluation therefore, casualties would be more debilitating for an emergent air force than the loss of combat platforms.

Sustainability. Emergent air forces would find it difficult to sustain the necessary operational tempo to achieve war-winning efforts. Operational tempo by itself is a function of a number of disparate elements and maintaining the required tempo would be outside the reach of an air force that had any constraints placed on it, be it ethereal or physical. This aspect is the biggest impediment to an emergent air force transitioning even to the continuum status and to the middle-power air forces from becoming equated with the USAF. Sustainability can be assured by the provision of the right mix of all the features that have been discussed above and is the culminating achievement of distilled air power competencies.

Capability analysis and the categorisation of an air force on the basis of such an analysis is not an easy task as there are both tangible and intangible elements that have to be considered. Despite this drawback accurate capability analysis is an essential part of the overall assessment of an air force and lends more credence to the process than any other factor that contributes to the categorisation.

Context

The veracity of the demonstrated capability of an air force is dependent on the context of its operational employment and any benchmarking of capability must take this into consideration. An air force that is powerful in a regional context may not be as effective when operating in a larger deployment scenario. The context of operations and deployment somewhat compensates emergent air forces for their limited capability spectrum in a global sense. The application of context to categorise an air force is not without its drawbacks and should not be done in exclusion of other factors. The contextual assessment of operational capability would have to be qualified by other factors that must be considered and incorporated. Context may be more applicable when evaluating the gap-bridging air forces against the middle-power scale.

Doctrine

The development of air power theory and the lessons of history are open to the world to assimilate. There are no secrets when it comes to understanding the basic air power competencies and the optimal means of applying them. Doctrine is essentially derived from an analysis of the past and formed by a holistic application of the relevant information in an intelligent and cohesive manner to the present day situation. Basic elements of air power doctrine can not be different for different air forces, because certain absolutes regarding the efficacy of air power do not change and have withstood the test of time. An air force with a sound doctrinal outlook

will be able to evolve its own doctrine while keeping the basics unaltered. Essentially doctrine can therefore be considered as having two levels, one which is universally common and a different, but not necessarily subordinate level that is specific to a particular air force. It is at this second level where the basics have been adopted and adapted to suit the requirements of a particular force that the variations become clearly evident. This lower level will form the strategic level of doctrine for an air force from which its own operational concepts and tactical doctrine would further flow.

Maturity at the second level of doctrine can be perceived as high, intermediate or low depending on its development that is visible in an unbiased overview. Irrespective of the capability spread of the force, doctrine maturity must be high for the force to be truly effective. The level of doctrine development and its maturity therefore becomes an important aspect in measuring the status of a force. A force with a low level of doctrinal development would be classified as an emergent air force because a well-balanced and strong conceptual development would not be possible on an undeveloped and immature doctrinal platform. On the other hand a force that has intermediate level of doctrine maturity would be in a position to either transit to the higher level or regress to the low level dependent on the internal strength of the force and external support from the state. At a confirmed high level of doctrine maturity an emergent air force is poised to be considered as continuum if other factors also indicate the same possibility.

The standoff between the two super powers during the Cold War and the assured intervention of both the powers in any conflict of importance was detrimental to the development of independent doctrine within emergent air forces. The major conflicts were largely proxy wars between the two powers, which stultified the ability of smaller nations to employ air power unilaterally and therefore completely negated the need and diminished their ability to develop a sound and independent doctrine. The meltdown of the Soviet Union and the end of the Cold War should have allowed a more benign uni-polar world order to emerge. Instead, the world has moved towards multi-polarism, adding anxiety to the smaller nations regarding the international politico-security environment. With the possibility of global war receding into the background, regionalism and the threat of localised wars involving smaller nations have increased.

The changed international environment that emphasised regional security initiated an arms race in most of the developing regions of the world with emergent air forces being the biggest beneficiaries of the acquisition process. The lacuna lay in the fact that these forces had minimal doctrinal support and were deficient in the understanding of employment concepts. A number of emergent air forces were able to obtain fourth generation aircraft and allied systems but were hard pressed to optimise their utilisation or even dovetail the equipment into existing operational strategy.

In summary, defining an emergent air force is not a simple process. The number of factors that must be considered and assessed are many and interdependent. The interaction between these factors makes any judgement qualitative and prone to considerable variations from different perspectives. Size, capability, context and doctrine as elaborated above are the key factors that must be assessed and will give a fairly straightforward indication of the status of an air force in a comprehensive manner. The categories of air forces that have been enumerated are also not to be considered in watertight compartments. From the top end of the middle-power air forces to the lower end of the emergent air forces there is a continuum that can not be severed without losing the credibility of any analysis. This section has suggested a method to streamline the analysis process to classify an air force, based mostly on qualitative aspects of air power that should prove to be vigorous when put to the test.

Why Debate Relevance

Historically the incremental improvements in warfighting capabilities have occurred over long periods of time and the 'revolutions' have been few and far in between. The introduction of the longbow, followed by the crossbow and the proliferation of the musket are both considered as examples of technological innovations that revolutionised warfare. That more than a century elapsed before the musket replaced the long bow and that no 'revolution' took place in between is often not considered an important factor in the overall study of warfare. Viewed in this perspective of chronology and timeframe, the advent of aviation and its use as a military system by itself is not a surprising event. What is astounding is the sweeping improvements in war waging capability

that air power brought to bear and even more remarkable is the rapidity with which air power radicalised warfighting concepts. That these changes have occurred in a span of just over 60 years is silent testimony to the powerful impact that the integration of technology and doctrine creates.

Emergent air forces have been an accepted part of the international security scenario for a long time. During this time there have not been any serious debate regarding the long-term viability of these forces. In the changed global environment this issue gains greater importance than before and the analysis of the pros and cons to their continued presence and utility becomes necessary. For a number of reasons discussed later in this chapter it seems apparent that emergent air forces are here to stay. Because of the changed global environment it becomes necessary to question the veracity of these reasons to establish the need for the continued existence of emergent air forces as well as to examine their future prospects in totality. The debate on their relevance is therefore a necessity, if only to reinforce the ubiquity of air power.

Two disparate incidents took place in the last decade that have forever changed the international air power equation. First, the change from bipolar to a multipolar world instead of the unipolar world predicted at the end of the Cold War and second, the globalisation of terrorism. The collapse of the Soviet Union had a two-pronged effect on the global arms market. A number of nations that were totally dependent on the generosity of the erstwhile Soviet Union to fulfil their military hardware needs were now faced with a steadily declining capability equation as spares and other support infrastructure necessary to operate the hardware started to dry up. The dire economic condition within the collapsed Soviet Union forced the Russian military industrial complexes to offer the latest military equipment for sale with no ideological caveats attached. In effect, the global arms market became one of almost cutthroat competition. The most sophisticated aircraft and weaponry were made available to any nation that could afford the price leading to a proliferation of third and fourth generation air power assets in a number of small but economically viable nations.

Many of these nations initiated the procurement spree more because the hardware was made available without any political strings attached than because of any comprehensively analysed security requirement. In an obtuse manner the acquisition of state-of-the-art air power assets seemed to indicate the economic and comparative 'power' status to a number of smaller nations. The reality, albeit arrived at on hindsight, is that most of these acquisitions were made without adequately developed doctrinal infrastructure to sustain their effective employment or wider thought being given to the nation's defence and security requirements.

Air power competencies are technology-driven. The collapse of the Soviet Union led to the denial of access to the technology necessary to retain capabilities to a number of nations whose legitimacy was questionable in international considerations. Air power is also technology-sensitive in order to remain at the cutting edge of capability, making it more capital intensive than other military capabilities. This factor, combined with the downturn in global economy, has forced most of the developing nations to rethink their defence expenditure and initiate actions to downsize their forces. The economics of air power is such that in every aspect it expends more resources than other forces. After the initial acquisition spree, most of the emergent air forces have had to scale down their operations and barring a few oil-rich Middle Eastern countries, no other emergent air force is now operating fourth generation aircraft to the full extent of their capabilities. Even in the Middle Eastern air forces, factors other than economics like size, capability, context and doctrine that have been discussed earlier impinge on the employment optimisation of available assets. These restrictions do not support the aspirations of even the air forces of the oil-rich and economically stable nations to upgrade their status from that of emergent air forces to even continuum forces.

The globalisation of terrorism has introduced another factor to international security perceptions that directly impacts the employment concepts of emergent air forces. Post September 11, there is a perceivable shift towards a unilateral approach to power projection and military action. The nature of warfare has changed and in any future conflict it is almost certain that American air power or one of the middle-power air forces would assume the lead. In these conditions any contribution by emergent air forces would be negated unless they have interoperability capabilities that matched the technological capabilities of these more capable air forces. Once again such capabilities point towards expending more resources to maintain the assets upgraded in line with the latest level of technology. The process of maintaining a technologically updated fleet not only requires adequate resource allocation, but also cohesive, robust and tested procurement processes. The long lead time required for

air power equipment to become operational, a situation further exacerbated by extended production cycles and intensive training requirements necessitate robustness of equipment procurement. The combination of high economic expenditure and other varied factors inhibit emergent air forces from pursuing a viable operational ethos or capability plan.

In the aftermath of the colonial era, the newly independent nations blindly adopted the tri-services model for their defence forces inherited from the colonial powers. It is more than likely that there was no in-depth analysis carried out to ascertain the necessity or viability of having an independent air force. Most of the air forces that can be categorised as ‘emergent’ come under this classification. Subsequent to the formation of these air forces, national security imperatives were no doubt analysed but it is more than likely that any suggestion towards terminating or amalgamating the air arm into the other services were either ignored or staunchly opposed. The possession of an independent air force was often considered a matter of national pride and prestige in most of these nations and the actual operational capability of the force may not have been the deciding factor in their continued existence.

On the positive side, over a period of time some of the emergent air forces have developed into capable small forces that provide more than adequate regional and domestic security insurance to their nations. Equally important as the military power projection capability that air power possesses, it also brings the prospect of technology transfer to the developing nations. Being technology-intensive even the basic maintenance facilities that must be established to operate aircraft requires a workforce with a laid down minimum technical qualification. This educational necessity has long term benefits to the technology base of a developing nation. When the equipment to be operated is more sophisticated, as most air power assets would be, the knowledge and technical skill transfer can be of enormous assistance to improving indigenous educational levels. Transfer of technology also has a complementary effect on local industry and tends to assist in broadening its technical foundations. The benefit that is derived from potential technology transfer would however be dependent on the local technology base and would be a direct function of the indigenous workforce’s assimilation capacity.

A dispassionate review of the capabilities, and therefore the relevance, of emergent air forces highlights both positive and negative factors. This obviously brings about a debatable situation. If for no other purpose, such a review will enhance the understanding of the compulsions that entice small and economically dependent nations to pursue national air power capabilities even at the cost of other more realistic developmental goals. The relevance of emergent air forces in national security perceptions will become clear only when viewed in this focus.

Threats to Small Nations

The two watershed moments in the international security environment referred to above forever changed the threat scenario for smaller nations. The Soviet Armed Forces, long the champion and protector of socialist ideals, became an almost powerless entity in search of a viable doctrine and self-sustaining identity. The events of September 11 changed and challenged the existing hue of international relations. This momentous event helped to clarify and crystallise the national interests of the United States, which had meandered along without a clear agenda in the aftermath of the Cold War.⁸

Threats have now been globally identified as transnational in nature and the smaller nations are caught in a vortex of security related activities over which they have almost no control. A sense of inevitability has been heightened throughout the developing world and this has contributed to an increased level of belligerence on the part of smaller and less powerful nations. Globalisation, once considered a purely economic factor, has now become a forceful entity in the threat perceptions of smaller nations. Terrorism, so far kept under wraps or blissfully ignored in most of the developing world for a variety of reasons, has now been acknowledged as one of the primary threats to the security of smaller nations. In fact some of the smaller nations have been identified as the source of terrorism by itself.

In this permanently altered scenario, where the world is transitioning from the stable bi-polar Cold War situation to an unknown multi-polar entity, the threats to small nations can be graded in terms of their intensity as low, medium or high. Identical threats could be labelled low in one state and high in another dependent on multi-faceted factors such as economy, regional relationships, membership of international and regional forums,

type of government, ethnic and religious make-up, indigenous groupings and internal security issues. Even within a country threat levels could vary with time and context even though the nature of threat had not varied.

The so-called 'War on Terrorism' has evoked mixed reactions from smaller nations throughout the world. There is a palpable and definitive feeling that the hegemony of the United States and its immediate allies may not be conducive to peaceful solutions to even bilateral issues. There is also an unstated antipathy to the lead role that the United States has assumed for itself in this self-declared 'global war'. The reaction, mainly from the developing world, has been one of defensive denial of the necessity to use force to eradicate terrorism. This may stem from the perceived partisan approach of the United States towards combating terrorism combined with a growing unease regarding the inadequacy of indigenous law enforcement and intelligence capabilities.

Smaller nations fear being reduced to irrelevance in the international stage or in a worst-case scenario being the target of a US-led coalition that attempts to stem terrorist activities that originate from within its borders. Both these reasons could entice an otherwise normal and stable state to attempt strengthening its own force projection capabilities. The unpredictable nature of the threat and its global implications also contribute to the uncertainties that small nations feel on the world stage. The strengthening of defensive capabilities against real or perceived threats therefore moves higher in the national priority list. This vicious cycle exacerbates the potential of small nations to deal concisely with issues of far greater importance. The impact of these threats is more devastating to smaller nations in their consequences than they are to more established and stable economies. In this scenario the debate regarding the relevance of emergent air forces become even more acrimonious, but absolutely necessary.

SECTION 3: EMERGENT AIR FORCES - DOCTRINAL POSSIBILITIES

The organisation of men and machines into military forces does not necessarily mean that they are equipped and trained for the accomplishment, if necessary, of decisive action in war. For this, the discipline of a coherent body of thought appears to be indispensable.

Eugene Emme⁹

Military doctrine deals with a very broad range of issues from the 'grand strategic' to the lowest tactical level. The importance of doctrine lies in its central role as the connecting link between defence policy and national strategy on the one hand and the operational capabilities of the armed forces on the other.¹⁰ Doctrine by itself is profoundly influenced by the culture and history of a nation, but in the case of air power doctrine there is a visible thread of commonality between different air forces. Differences in air power doctrine are minor and can be perceived at the second level, produced mainly because of the variations in national security goals and threat perception. For an air force in being doctrine influentially envelops the organisation, the decision-making processes and the force-structure development, dictating the entire modus operandi of the force.

A clear inclination to furthering peace and perceptions of an ongoing peace process has always had a detrimental effect on doctrinal innovation. Military strategic doctrine basically deals with the effective and optimum application of power at the highest level, and the employment of the armed forces of a nation as instruments of force application. Considering the centrality of doctrine in effective force projection, the difficult task of doctrine development is an essential preoccupation of the military in times of peace. This inherent dichotomy in the doctrine development process, of having to be evolved in peacetime for utilisation in war, brings out three intangibles, applicable to all doctrine.

- Doctrine can never be totally correct since it can never be based on a completely accurate appreciation of future combat conditions.

- Flexibility of mind and organisation is the sine qua non for military institutions in the opening phases of a war.
- Doctrine developers need to be as close to absolute correctness as possible in peacetime in order for the established doctrine to be relevant in its wartime application.¹¹

The attitudes of air forces around the world to doctrine can at best be described in one word as ambivalent. The development and projection of core air power competencies are equally dependent on technology as on ideas and concepts. It therefore becomes easier for air forces to sideline doctrinal development, albeit with definitive detrimental effects in the long-term. Of late however there is general acceptance of the central role of doctrine in establishing an air force as an institution of national security.

Emergent air forces have the additional need to articulate their doctrine succinctly in order to survive as independent entities and retain their relevance in a rapidly changing security environment. The doctrine so articulated by smaller nations would obviously depend on the security perceptions of the nation concerned. In examining the security perceptions that impinge on doctrinal development, the air forces of nations under extreme dictatorial rule have been discounted in this paper as they form an aberration in an otherwise generic spread of air power capability development. From an air power doctrinal perspective the general security situation and requirements peculiar to smaller nations could be listed in ascending order as follows and is represented graphically in Figure 1:

- Internal strife
- Defensive posturing
- Limited power projection
- Coalition operations

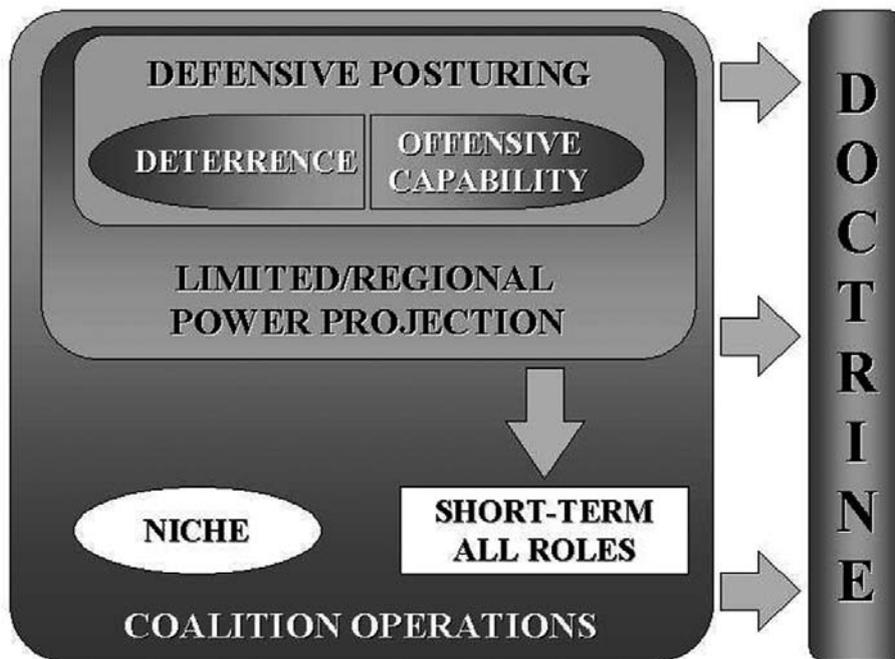


Figure 1. Emergent Air Force Capability Spectrum

Other than for a state with internal threats to national security, the other three are cumulative in that a nation with adequate doctrinal development to undertake coalition operations would have limited power projection capabilities and one with limited power projection capabilities would be able to adopt a defensive posture if the need arose.

The air force structure, acquisition process and air power doctrine of the nation would flow from the situation in which it finds itself. Pervasive to all the four situations would be the attitude of the government to the

development of air power capabilities. An air force may possess every capability in adequate measure, but would still not be competent if its government has no real urge to ensure its future development. The attitude and actions of the government will determine the force structure of the air force and affect the efficacy of the air power in being.

Internal Strife

A large number of small and developing nations find themselves in the throes of domestic conflicts that at times assume the dimensions of civil wars. While the reasons for the internal conflict, as well as the warfighting methods that are used, remain outside the purview of this paper, the impact of these conflicts are clearly reflected in the doctrinal development of the nation's air force in being. Under civil war conditions the air assets would normally be used in counterinsurgency roles or similar operations. Under these circumstances minimal thought would be given to concepts of operations and tactical development let alone strategic or doctrinal considerations.

In a majority of these cases it is highly unlikely that there would be a well-defined doctrine to guide the employment of the air force. To postulate, in the improbable event of such an air force embarking on the development of a doctrine it is most likely to develop one that would be predominantly inward looking, which neither takes into account the ubiquitous nature nor the universality of core air power competencies. Such doctrine may indeed be viable in the short-term but it would stifle any meaningful growth of air power. An air force with such a conspicuously narrow slant to its doctrine would have to be discounted from the ranks of forces with the potential capacity to evolve in the future to a higher category. Only a complete doctrinal transformation would bring these air forces to the initial stage of competency from which they could develop into small but significant contributors to the national security equation.

Defensive Posturing – No Power Projection

Economic constraints, political realism and geographic realities can force a nation to have a completely defensive security posture. In such a situation, the entire military doctrine of the nation would be defensive in nature. This does not however preclude the inclusion of offensive tenets in the doctrine as an 'after-the-first-day-of-war' concept. In such a case the air force contribution would basically fit into the offensive framework. The drawback with this type of doctrinal thinking is that it degrades the inherently offensive nature of air power.

Normally a force operating within a pervasive defensive envelope is constrained in its capability acquisition program in that procurement of equipment is normally biased towards defensive systems. An air force functioning within a defensive grand strategy that lends itself to a doctrinally defensive outlook is sustainable only if the force is large enough to provide the flexibility and the qualitative capability necessary to evolve the offensive from a defensive commencement. The resource requirements for such a posture are immense and needs extensive in-depth strategic reserves. In the context of a small nation both these prerequisites are not likely to be available. An emergent air force doctrinally evolving in a defensive environment is therefore more than likely to be disadvantaged in the optimum application of air power.

This is not to suggest that an emergent air force with a defensive posture is not a viable force. On the contrary, they would be effective as deterrent force capabilities, but only in the short term. Doctrinal development in this case would be stilted and the development of the air force itself would become subject to extraneous factors other than purely air power capability development. Such a situation is not conducive for air power to develop effectively and to deliver optimum contribution to warfighting capabilities.

Limited Power Projection

The post-Cold War changes in the world order have affected the security perceptions of most nations. It is in the developing world that the implications of this situation seem to manifest in visible terms. Changed security perceptions have led to force structure manipulations and an increased tendency to procure power projection capabilities. Most of these developing nations have varying degrees of regional power status aspirations, although it may not be in keeping with the ground realities of their power generation and economic capabilities. Under these circumstances, air power capabilities are viewed as the answer to their perceived or actual requirements.

These factors could prompt the emergent air force to opt to develop regional power projection capabilities as well as limited stand-alone competencies. It is obvious that both these complimentary requirements would have to be based on a fairly well developed air power doctrine to ensure the effective employment of the air force in support of political goals. Regional power status is heavily dependent on demonstrated power projection capabilities and air forces are seen as the best way to achieve such capabilities. Emergent air forces developed along these lines have fairly well developed and tangible doctrinal foundations.

While the need for a nation to possess regional power projection capabilities can be debated, the doctrine that supports such a national security stance needs to be carefully moulded. This is even more important in the case of emergent air forces because the force structure necessary for adequate power projection, even on a minimalist regional scale, is almost always beyond the resource capabilities of these air forces. The doctrine of such forces therefore would seem to be slightly bereft of reality and dealing in the realm of futuristic capability infrastructure.

The mix of regional political aspirations and the air force's power projection capabilities is a potent combination in increasing regional tensions and the doctrine of the force would have to contend with this added dimension. On the whole, a doctrine for limited power projection could not be considered a viable alternative for an emergent air force since both political ramifications and pragmatic economic calculations in most cases would restrict the extent of resident offensive capabilities.

Coalition Operations

In the current international situation the most evolved emergent air forces would be those with the capability to participate effectively in coalition operations. These air forces can be further classified into two types. The first are the ones that concentrate on being able to provide certain niche capabilities in the overall air power context by undertaking fewer roles but with enhanced competency and sustainability. The second type include the small but powerful air forces capable of providing an all-roles contribution but sustained at a much lower tempo and for a shorter duration as compared to a middle-power air force. The emergent air forces that genuinely possess overall capabilities, albeit to a lesser degree, come closest to achieving the 'continuum air force' status on a long-term perspective.

The doctrinal developments in both the types of air forces mentioned above would also be of a higher standard and they would have the capability to develop into strong and viable forces. The only drawback that is visible in the doctrinal process of these forces is the reluctance of the governments to sustain the forces and also the recent trend within the international community to withhold deployment of forces even under a coalition umbrella. Thus the constraints in this case would be more of political compulsion rather than capability assimilation. The manifestation of these restrictions could make such an air force fall back into the sphere of uncertain doctrinal development with the attendant degradation in capability and status as easily as they could cause the force to forge ahead and become one to be reckoned with. There is no viable substitute to development of doctrine as the primary tool in shaping the future of a nascent air force.

The Relevance of Doctrine

Those who are possessed of a definitive body of doctrine and of deeply rooted convictions upon it will be in a much better position to deal with the shifts and surprises of daily affairs than those who are merely taking short views, and indulging their natural impulses as they are evoked by what they read from day to day.

Winston Churchill¹²

If a government, whether democratically elected or otherwise, is willing to allocate adequate resources it will be possible to build up an air force that at least outwardly fulfils the requirements for it to be considered powerful. The test of such a force would come in times of conflict and the reality of the force capability would be laid bare for the world to see. The only way a force can acquit itself with dignity in the manner worthy of an asset-wealthy air force would be by ensuring that the force in being is always backed by sound and valid doctrine.

Doctrine is the bedrock on which all competencies and capabilities as well as strategic and tactical operational dictums are developed and entrenched in an air force.

Irrespective of the size or the capability of the force, doctrine provides the necessary support for it to prevail. In the four broad categories of nation-state security situations and the associated doctrine possibilities discussed above, the optimum for a force to adopt would be the one at the high end of the spectrum, revolving around either niche capability or short-term all-roles capability. The developments of both these types need to be supported by viable and well-constructed doctrine development capabilities that were intimately aligned with the capability spread as well as national security goals.

The possibilities in terms of doctrine development are immense even for emergent air forces. It is the maturity of doctrine and its capability to stand any credible test that differentiates one emergent air force from another. In a very wide perspective it is seen that a large number of emergent air forces do not pay sufficient attention to the prudent development of doctrine. This situation leads to degradation of the process of optimisation of air power employment as the meagre resources and inadequate capabilities available are frittered away without a coherent doctrine to steady their use. Thus it would seem to be even more important for emergent air forces to have an iron-cast doctrine to base all operations on, since they operate under restrictions of inadequate air assets that must not be under- or ill-used. Well-formulated and understood doctrine is clearly more important in the context of a resource-starved air force than one that operates in a resource-abundant environment. This assessment is postulated in a holistic manner purely from an air power perspective and does not take into account other factors like the basic politico-economic condition of the nation.

SECTION 4: AIR POWER, SMALL NATIONS AND GEO-POLITICAL IMPERATIVES

*When all the oceans are as brothers,
Why must there be storm and strife in the world?*

Emperor Hirohito¹³

Since 1648, the concept of nationhood has been a constant, although the definition of sovereignty has been a changing and more complex concept through the ages. Since the demise of the more predictable bi-polar world in the early 1990s, smaller nations have continued the search for stability within their immediate spheres of interest and to redefine their own sovereignty.

A factor that has considerably altered security perceptions in the past two decades is the slowly diminishing importance of geography as an imponderable in macro defence planning. Even as late as the 1970s, geographical environment was one of the prime facets of national security planning and force structure development. Four major changes in the world order made geographical considerations more a matter of tactical importance rather than of strategic consequence. First, the changed threat perceptions wherein national security interests became undeniably enmeshed with economic factors, leading to the belief that threats could emanate and be precipitated far away from the homeland. Second, the reluctance of nations to enter into outright and declared 'state on state' war thereby decreasing the importance of geographical boundaries in terms of conflict situations. This does not suggest that territorial disputes are a thing of the past, but that resolution of these disputes is being done in more subtle ways without actually declaring war.¹⁴ Third, and perhaps most important, the ready availability of sophisticated air power assets as a direct result of the end of the Cold War increasing the reach and lethality of even emergent air forces. The extreme competitiveness of the international arms market further increases the availability of these assets, shrinking geographical barriers. Fourth, the universality of the current threat scenario in which increasing trans-national crime and terrorist activities have combined to blur and diminish the importance of geographical borders.

The open availability of air power assets has particular significance to nations like Australia that have so far emphasised their invulnerability to significant attack based on calculations of geographic barriers. Not only have the barriers been dismantled, but also the quantum and type of threats have proliferated. Air power now provides even small nations the wherewithal to become part of the debate in power projection matters irrespective of any other national characteristics. With the global reach of air power and the universality and trans-national characteristics of threats geography has in fact become almost irrelevant.

It is now credible to say that smaller nations have a tendency to view air power as a kind of panacea for their security needs, though in some cases these needs may not even be clearly defined. The characteristics of versatility, responsiveness, penetration and visibility that are inherent in air power make it an attractive force capability to possess even at great cost. Paradoxically most emergent air forces are assigned vague roles because of the lack of clear doctrinal development and the unwillingness of the nation to articulate its defence posture.

Another factor that tends to be glossed over in general discussions, possibly because of the sensitivity of the topic, is the fierce and at times unrealistic national pride that almost all decolonised countries have regarding their independent defence capabilities. Air power is often seen in these circumstances as a visible sign of defence competencies. This trend is manifest among smaller nations wherein the air forces are disproportionately large in comparison to the security needs of the country. Although the effect of nationalistic pride on air power capabilities per se is only secondary, it has to be considered in a holistic appraisal of air power requirement vis-à-vis the geo-political imperatives of small nations.

Air Force Contribution

The changing security scenario and the constant and overt realignments in international relations because of the flux that has been created by the global change from bi-polar to uni- and then multi-polar dimensions have brought into sharp focus the need for small nations to formulate relevant security stances. It is becoming increasingly clear that for a nation to remain internationally relevant, it must have the capability of meaningful contribution to the global economic, political and security debate.

In this context, air power is perhaps the best military competency that a nation can obtain, even if it were to provide only niche capabilities, to retain an acceptable level of relevance in global affairs. Even a small nation with adequate air power assets can provide a significant contribution in coalition operations that no other force projection capability can equal. The unique characteristics of air power elevate it above all other capabilities in assuring the continued relevance of a small nation in international politico-security calculations.

The air force contribution to the geo-political and security environment will vary dependent on the domestic and international security situation, and the nation's perceived role in both regional and global affairs. The scale of influence and contribution extends through a spectrum that at the one end is purely defensive in nature through deterrent capabilities to the other extreme of offensive and lethal power projection in the support of coercive policies. This unique and large capability spread of air power makes it particularly suited to the build up of security competencies for a small nation.

Small nations, especially in the decolonised world, often have a peculiar ethos that requires reiterating their independent status as sovereign nations in regional and global socio-politico-economic considerations. In no other sphere is this stance more noticeable than in defence and security. A viable air force, however small, provides small nations with a definitive and individual identity as compared to other power projection and military capabilities, even though air power assets would require a larger economic outlay. This is one of the fundamental reasons for the existence of so many emergent air forces in varying degrees of development and competency. It also comprehensively underscores the relevance of an air force as an entity of nation building.

In a completely different context, small nations with an awareness of the extreme vagaries of alliances will aspire to have at least limited stand-alone security capabilities. While some of the continuum air forces may operate successfully under these constraints, the problem is more critical in the case of emergent air forces. They operate under conditions that are not conducive to effective air power application even though the air force may maintain an independent status. This is a major factor in determining the air force contribution to a nation's

security perception in particular and the relevance of air power to the nation's geo-strategic environment in general.

Air forces are the most economic way to project and sustain a viable military presence abroad. In the case of small nations the capability would need to be tailored around a coalition in which they operate and therefore should be viewed in terms of designated role competencies rather than as a complete air power projection capability. Towards this end small nations should bias their competency development in concert with the larger forces with which they expect to operate in coalition. This brings to focus the need for small nations to have a well thought out long-term security policy that takes into account the need for cooperative engagement at both the regional and global scale. Air force doctrinal imperatives will flow from this basic structure.

Sovereign nations covet independence and look for opportunities to assert their status in the international arena. Changes to the entire geo-political structure of the world in the wake of the new security threats that have taken centre stage in the past two or three years have shaken the fragile foundations on which smaller nations had built their security environment. There is currently no clear indication of what world order will emerge while there is almost total certainty that trans-national threats will continue to be contentious issues to be reviewed and dealt with on a constant basis. In this scenario smaller nations can be expected to strive even harder to be relevant, at least in a regional sense, in order to ensure their continued development and prosperity.

SECTION 5: EMERGENT AIR FORCES - REINFORCING THEIR RELEVANCE

Most of the emergent air forces need to rethink their doctrine and their entire strategic appreciation regarding the concept of employment of air power if they are not to be completely sidelined in the national security equation. It is clear that under the current increasingly dynamic, uncertain and complex geo-political circumstances there is a role that only air power can fulfil in the security requirements of small nations. There is a dichotomy in the situation in that there is real threat to air forces becoming sidelined while at the same time they need to be reformed to fit the emerging requirements. This apparent divergence needs to be ameliorated to ensure that emergent air forces stay relevant in the overall security context.

Since it is not within the capability spectrum of the emergent air forces to have fully stand-alone capability, the way forward would seem to be fairly clear. These air forces should move towards becoming capable of coalition operations in the short-term and forging alliances as long-term solutions to ensure adequate capability. The concept is simple, but the implications are very complex and would have to be analysed in detail. There are a number of issues that need careful consideration by a small nation before it attempts to ensure the relevance of its emergent air force in the new international security environment.

Major Restraining Factors

Why can't they buy just one airplane and take turns flying it?

Calvin Coolidge¹⁵

There are two major factors that would constrain an emergent air force from developing the necessary niche capability to become part of a larger alliance.

Resources. Air power assets are comparatively expensive not only to acquire but also in their through-life support and operational requirements. The very nature of emergent air forces suggests that they would be operating under conditions of inadequate resource availability. Even when the decision is made to maximise a particular competency, availability of adequate resources to attain the necessary expertise might become a restricting factor. This would lead to the nation having to make a choice between the only two available options; either to take drastic steps to ensure allocation of necessary resources to the air force or to critically assess and decide on the long-term viability of the air force itself. An example of the government adopting the second option is the decision of the New Zealand government to severely curtail the operational capability of their air force by disbanding the Air Combat Group.

Inadequate Independent Defence Capability. Small power nations inherently suffer from inadequate stand-alone defence capabilities. If the probability of a politically acceptable alliance is rated as low or non-existent, the niche capability of the emergent air force would in itself become redundant in the overall defence requirement of the nation. Under these circumstances, the need to sustain an independent air force incapable of whole-spectrum, all-role operations would itself come under scrutiny. A logical decision under these circumstances would be to better utilise the scarce resources by allocating them towards building up other defence infrastructure. Smaller nations often suffer from a degree of insecurity, which has been heightened by the current global tensions and uncertainties. A combination of these factors could well prove to be untenable for any government to continue to build or support a force that in itself is seen as non-contributory in the overall scenario.

The very existence, let alone relevance, of emergent air forces depends on these two factors being comprehensively and positively addressed at the highest level of decision-making in a nation. The only viable alternative under the circumstances is for smaller nations to collectively develop air power capabilities that can be brought to bear in the pursuance of joint security. This would involve the alliance partners developing designated niche capabilities that in combination will provide optimised all-roles capability. In this context it is apparent that emergent air forces will find it more pragmatic and convenient to operate in regional alliances rather than become part of a larger global alliance force. These air forces would have well defined niche capabilities at a lower level of sustainability, developed to ensure their continued relevance. Becoming part of a global alliance carries with it the inherent threat of the smaller nation becoming irrelevant because of only limited niche capability contribution arrived at by the very process adopted to stay regionally relevant in the first place.

Coalitions are like the weather. We have to work with what we are given and, while rarely afforded a chance to make things better, we have ample opportunity to make them worse.

Major Michael O'Halloran, USMC

The only two exceptions have been the coalition formed in the 1991 Gulf War and the NATO alliance. The 1991 coalition can be discounted since no emergent air force assets were used in any noticeable way during the conflict and also because the coalition was formed for a specific campaign and had no long-term implications or intentions. The NATO alliance has withstood the test of time so far, even though it was created to contain the spread of communism to Western Europe in the immediate aftermath of World War II and during the Cold War.

The NATO Model

The NATO model can be taken as the blue print for smaller nation security paradigms and emergent air force structure and capability building. Within the NATO alliance only three member nations have any true stand-alone capability. All the other air forces however, have niche capabilities that support the implementation of alliance objectives. Taken as a whole, NATO forces have the capacity to bring to bear and sustain all air power competencies, even though it will be the USAF that provides the bulk of the necessary effort. This is in fact the optimum situation for the air forces of the smaller nations of Europe who are also affected by the two constraining factors of emergent air forces discussed earlier in this chapter. The effortless integration that has been achieved in the NATO context can be attributed to:

- The Cold War geo-political and security environment under which the alliance was formed ensured the steadfastness of the organisation in the long-term.
- The smaller nations within NATO are very cognisant of the fact that their independent survival is almost completely dependent on their alliance with the United States, which further strengthens the strategic alliance.
- Much of the equipment used by these air forces have commonality of design philosophy and manufacturing style thus facilitating adequate interoperability and faster integration.¹⁶
- Development of the emergent air forces within the alliance for the past 50 years has been carefully tailored to meet the overall competency requirements of NATO forces as a whole rather than as single entities and has been completely based on the USAF capability spectrum.

The parameters under which the NATO model has been constructed and nurtured is unique and could not be reproduced in any other context. At the same time, the NATO model makes the best use of emergent air force competencies and should be studied as the optimum way forward for any coalition approach to air power. Such an analysis, done in a generic and unbiased manner, would highlight the strengths that should be considered in developing emergent air force and small nation security alliances within a global or regional context.

Alliances – The Optimum Solution

The constraints under which emergent air forces operate and the need to continue their search for relevance clearly indicate the necessity to have allies capable of boosting own capabilities on an as-required basis. This is the reality facing small nations.

For both political and economic reasons it is unrealistic to consider the formation of a NATO model alliance in the current international scenario. It is, however, a requirement for emergent air forces to forge alliances because of the overriding necessity to remain relevant in the global or even regional security equation and to ensure their very survival as independent entities. The optimum via media solution would therefore appear to be the formation of alliances that are politically acceptable while also enhancing the combined capabilities of the air forces involved. From a practical point of view only regional alliances would be viable since the formation of large international alliances may not be relevant any longer in today's changing world.¹⁷

In the case of emergent air forces, the task of creating regional alliances that could stand the test of time would in itself be difficult. There is, however, no other viable option for these air forces and it would be prudent for them to regard the formation of alliances in a pragmatic manner. The politics of such regional alliances is beyond the scope of this paper. The only political caveat that needs emphasising from an air power perspective is that the alliances so formed should be enduring since air power capabilities need long gestation periods to mature. Thus the solution can not be a short-term opportunistic alliance under any circumstances. This need for assured continuity of the coalition adds further pressure on the political aspect of the alliance formation.

Factors to be Considered in Alliance-Building

There are five major factors that need to be considered when emergent air forces form alliances to further their capability spectrum. They are:

- Capability spread
- Niche capability
- Interoperability
- Resource merger
- Alliance friction

Capability Spread. The basic requirement is to ensure that the complete air power competency spectrum is embedded within the alliance. The quantum of force and the sustainability of capability requirements would need to be decided dependent on the security goals defined and accepted at the political level between the partners. The spectrum could vary from the requirements of a pronounced defensive deterrent posture to dedicated offensive capability and sustainability, and from the needs of a short-duration holding campaign to drawn out medium-duration all-capabilities conflict. While it is not envisaged that such an alliance would have to fight more than one conflict simultaneously, the prospect of multiple deployment should be considered in the planning of the capability spread across the alliance.

Niche Capability. Each constituent air force of the alliance would provide one or more niche capabilities to the combined force. The selection of a niche capability for a particular air force would have to be relevant to the nation's security context and posture. The doctrine of an individual nation's air force would be an indicator of the required capability. The main advantage of this arrangement of each air force providing niche capabilities is that the sum of the parts would be more than the whole. Employed optimally this type of alliance air force

would be more lethal and formidable than a single stand-alone force that provided similar capabilities because the sustainability of each competency would be much greater in the case of the alliance.

Interoperability. The emergent air forces that form an alliance must ensure complete interoperability of assets to guarantee lasting viability. This requirement would impinge on the doctrine, force structure development and equipment acquisition process of all the constituent air forces. Since the development of a niche capability also impacts directly on the three aspects above, the selection of the capability by itself assumes greater importance. Interoperability is the lynchpin in the success of such a combined force and therefore would also entail a clear understanding within the alliance of each other’s larger political aspirations, economic imperatives and domestic social compulsions. That these contributory aspects may not always be in complete harmony within the coalition adds more tensions to the tenacity of the alliance.

Resource Merger. In the process of effecting the alliance it might become necessary to share resources in order to ensure that a particular competency is developed to the necessary standards. It is a difficult proposition for a resource-strapped country to merge its resources into a common pool but such a situation is not inconceivable. The practicality of such a move would depend on the solidity of the alliance and the members’ perceptions regarding its viability. Merging of resources to obtain shared niche capabilities could become a necessity for smaller nations as the procurement of aerospace power competencies, as well as their continued maintenance and operating costs, become increasingly expensive.

Alliance Friction. Alliances are formed to face common threats, but political objectives of the partners may not always be the same. There may also be disagreement regarding doctrine, targeting and the overall employment of air power assets. More important would be the consideration of alliance friction in terms of overall objectives of the campaign.¹⁸ Commonality of objectives between the alliance partners can at best be around 60 or 70 per cent and there would be different interests at stake that would influence the political choices. These differences could become untenable and make the partnership drift without cohesive aims. The choice of contribution even to an existing alliance would, of necessity, have to be a political decision but one with immense military implications. This too would lead to additional friction within the alliance. Further, alliances are difficult to maintain unless there are common values, cultures and interests underpinning it. The reluctance of nations to share national secrets and the perception of reduced independence when forming an alliance are also factors that contribute to the overall friction.

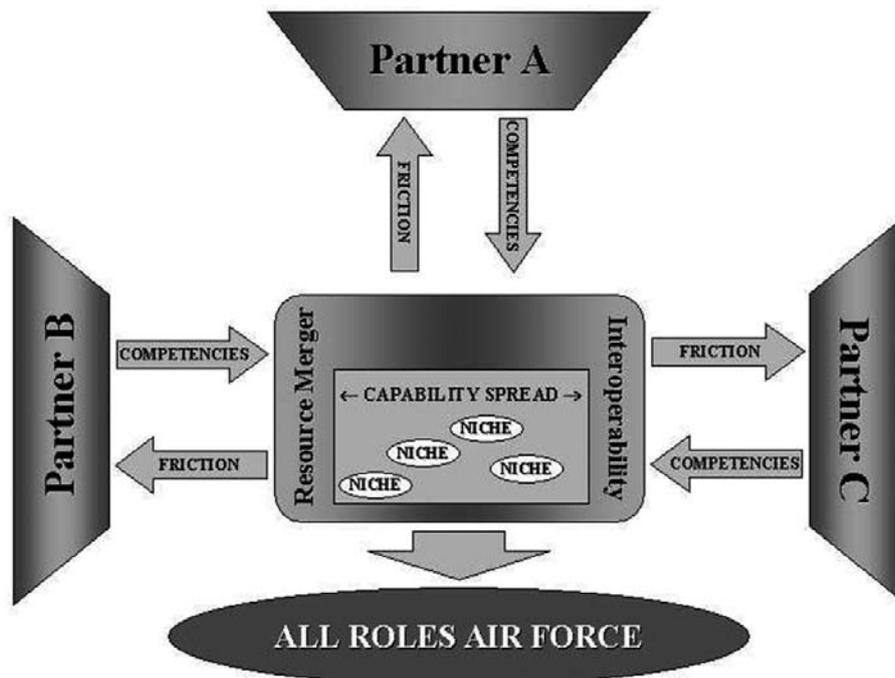


Figure 2. Building an All Roles Alliance Air Force

Stumbling Blocks in Alliances

Another concept that smaller nations and their emergent air forces must consider is the formation of the total combined force into a capability-driven force. This consideration may require revolutionary transformation and a much larger allocation of resources than would normally be available to an emergent air force for it to individually become a capability driven force. Such a change by one member of a alliance would also entail that the rest of the members also embark on the same transformation, which may not always be feasible. The way forward for individual emergent air forces would be to build their niche capabilities around platform-centric acquisitions and contribute to a capability-driven alliance force thereby straddling the gap between the two kinds of forces. The overall force build-up would have to be carefully managed to ensure that it remains capability-driven and remains aloof from platform-centric thinking. Such an air force would give an alliance the capacity to deploy tailored, capability-based force packages on an as required basis.

The alliance would have to centralise information warfare capability in a combined manner to make it cost-effective in the long term. This would entail the sharing and merger of resources while ironing out the inherent problems of ownership, state-on-state relationships within the alliance and responsive responsibility. Once again, the sticking point in this concept is the likelihood of the alliance constituents pursuing differing agendas in this sphere to the operational and financial detriment of the combined force.

While the solution proposed would greatly increase the capability of emergent air forces and also bring them onto centre stage in the employment of aerospace power capabilities in all its manifestations, the realities of geo-political relationships indicate that the adoption of such a solution is improbable. A realistic assessment of the minimum requirements to achieve coherent air power capabilities in the context of a regional alliance would indicate the need for individual nations to subsume their own aspirations to the larger security imperatives. This may not always be possible, especially in the case of small nations that are themselves in the throes of agonising over their independent standing and status in the community of nations, both regional and global. Most of the emergent air forces form part of the Asian and African continent where the nations are newly decolonised and this context further exacerbates the problem.

Yet another factor that would oppose any meaningful move towards the formation of an alliance as suggested would be the perceived domestic needs of the nations involved vis-à-vis the employment of air power. A large number of small nations have internal problems that tend at times to become violent uprisings. A number of emergent air forces are also constrained by political imperatives to concentrate on improving counter-insurgency (COIN) operational capabilities in support of the rest of the forces. Under these compulsions of domestic imperatives, a small nation may not be receptive to the idea of either giving up its own limited COIN capabilities or to allowing combined forces to operate within its sovereign borders in that role, irrespective of the existence of alliance treaties.

CONCLUSION

With long reach, rapid response, precise and heavy firepower, impervious to frontiers and coastlines, swiftly inserted and equally easily disengaged, air power already has the capacity to determine the outcome of conflicts.

Air Vice-Marshal Tony Mason¹⁹

In recent times air power has decisively moved from a support role to a war-winning force that dominates the entire spectrum of modern combat operations. It adds a hitherto unknown dimension to the concept of 'jointness' in the new air-land dynamics with a much more concise integration of the two elements. Only a full-spectrum-competency capability will enable an air force to perform at this level and tempo of operations. This capability is neither easily obtained nor is it easy to maintain in the long-term without the assurance of large-scale resource availability. The two factors are contradictory in that to be competent, air forces require certain capabilities, but the same capabilities are not easily available to resource constrained forces.

The dichotomy will only increase with the technological innovations that are changing air power employment concepts in ways that have not been contemplated before. Under these circumstances emergent air forces find themselves in a situation wherein the need to modernise existing assets and acquire new evolving competencies are clearly understood but realities of resource constraints and other extraneous factors preclude any attempt to do so. In a never-ending spiral of inability to maintain required capabilities and its impact on core competencies, these air forces gradually reach a stage wherein they cease to be operationally effective and therefore become economically untenable. The need for these smaller nations to take steps to stop this inexorable spiral to irrelevancy can not be over emphasised.

Notwithstanding the inter-state pressures and regional status of the nation, there is absolute clarity in the situation. Small nations face a variety of security threats ranging from internal strife to questions of territorial integrity and national sovereignty. Partnership of any kind involves interoperability and this is ever more important in the case of emergent air forces operating in a coalition environment. The nature of their response would always depend on the available security infrastructure. The contribution to combined coalition capabilities in the case of a nation not directly under threat would be one of choice and that is where the crux of the matter lies in terms of alliance capability building.

The concept of cooperation in warfare is as old as warfare itself. The concept of forming alliances in which the product is greater than the sum of the parts has been an accepted axiom of military diplomacy over the years. While historically the formation of alliances and coalitions, one pro-active and the other reactive, have been short-term and often self-serving measures, recent developments in air power capabilities clearly indicate the need for a long lasting understanding of peacetime cooperation for the development of effective warfighting capabilities in emergent air forces. Through out the history of air warfare the need to understand regional air power cooperation as a concept has never been more urgent.

The writing on the wall for emergent air forces is clear and large. Cooperate effectively or meander along to inevitable irrelevance!

ENDNOTES

- ¹ Hallion, Dr. Richard P., 'Twentieth Century: A Century Shaped by Air Power', in Olsen, John Andreas (Ed), *A Second Aerospace Century*, The Royal Norwegian Air Force Academy, Norway 2001, p. 51.
- ² Toffler, Alvin and Heidi, 'Foreword: The Intangibles', in Arquilla, John & Ronfeldt, David, *In Athena's Camp*, RAND Publishing, Santa Monica, CA, 1997, p. xx.
- ³ Knutsen, Torbjørn L., *The Rise and Fall of World Orders*, Manchester University Press, Manchester, UK, 1999, p. 9.
- ⁴ Armed conflict or the threat of war is not regarded as a legitimate diplomatic tool unless it is done as an act of self-defence or under the authority of the United Nations Security Council. The recently concluded war in Iraq would have to be considered an aberration. For details on the legitimacy of diplomatic actions, please refer UN Charter Article 2 (4).
- ⁵ There is a school of thought that the threat of a NATO ground offensive was the deciding factor in the capitulation of the government. There is as yet no conclusive proof to support this claim and is therefore being discounted. There is also no way to really determine how much the threat of a ground campaign affected the decision-making of the leadership. Viewed in holistic manner it can be stated with reasonable assurance that the capitulation would have taken place even without ground intervention.
- ⁶ 'A Road Map for US Air Power', from the USAF Association Advisory Group on Military Roles and Missions, reprinted in *Military Technology*, No 10, 1993, pp. 56-58.
- ⁷ Stephens, Alan, *High Noon of Air Power*, Paper No 71, Air Power Studies Centre, Canberra, 1999, p.7.
- ⁸ Dibb, Paul, 'The Future of International Coalitions: How Useful? How Manageable?', *The Washington Quarterly*, Spring 2002, The Center for Strategic and International Studies, Washington DC, p. 134.
- ⁹ Cited in Westenhoff, Lt Col Charles M., Ed, *Military Air Power, The CADRE Digest of Air Power Opinions and Thoughts*, Air University Press, Maxwell Air Force Base, Alabama, 1990, p. 171.
- ¹⁰ Levite, Ariel, *Offence and Defence in Military Doctrine*, West View Press, San Fransisco, 1989, p. 10.
- ¹¹ Howard, Sir Michael, 'Military Science in the Age of Peace', in *Journal of the Royal United Service Institute for Defence Studies 119*, RUSI, London, March 1974, pp. 3-11.
- ¹² Westenhoff, *Military Air Power, The CADRE Digest of Air Power Opinions and Thoughts*, p. 171.
- ¹³ Quoting from a poem by his grandfather Meiji, at the Imperial Conference on War Planning, Tokyo, 6 September 1941.
- ¹⁴ United Nations Charter outlines 'war' as a political instrument. Hence declaration of 'war' has become moribund since 1945 and arguably even since 1925.
- ¹⁵ Westenhoff, *Military Air Power, The CADRE Digest of Air Power Opinions and Thoughts*, p. 23.
- ¹⁶ It is only in the past five years or so that new member-nations from the erstwhile Eastern Block have been admitted to the NATO alliance. The Soviet manufactured equipment brought into NATO by these forces are slowly beeing replaced by 'Western' manufactured systems.
- ¹⁷ This statement is made in view of the difficulties that NATO is currently facing in terms of tensions apparent within the organisation regarding the deployment of forces to ensure the defence of one of the member nations, let alone the commitment of forces to conflict.
- ¹⁸ Mason, Air Vice-Marshal Tony, 'Air Power in Coalition', in Olsen, John Andreas (Ed), *A Second Aerospace Century*, p. 214.
- ¹⁹ Mason, Air Vice-Marshal Tony, *Air Power, A Centennial Appraisal*, Brassey's, London, 1994, p. xvi.