



The Future Relevance of Smaller Air Forces

by Sanu Kainikara

FOREWORD

All air forces are facing challenges caused by the current geo-political and economic environment and are trying to optimise their organisations and operations to better meet national security requirements while continuing to field new capabilities.. Smaller air forces—those that have balanced capabilities, but are limited in their depth (size and capacity)—are the most affected by the downturn in resource availability. Further, the challenges to security have forced nations to realign their national security policies that in turn make it necessary for air forces to also reappraise their strategies. For example, there is an increasing focus on air power's role in irregular warfare and an increasing emphasis on network enablement.

This paper has a future focus and enumerates the challenges that air forces will encounter in the medium-term future. It then suggests the future direction that smaller air forces must take to continue as relevant components within the broader national security environment.

I trust that this paper will be a stimulating read for all those interested in air power and national security issues.

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PREFACE

Air power has always been a resource intensive capability and is therefore, expensive to obtain, maintain and operate at the desired level of competency. Furthermore, with improvements in air power capability, brought about by innovations in cutting edge technology, the cost of maintaining effective air forces have increased exponentially. Simultaneously, political compulsions in democratic nations across the world demand a more equitable distribution of national wealth in which defence is only one of many competing priorities that all seem equally urgent, especially in times of comparative peace. Under these circumstances, air forces have the unenviable task of having to field adequate capabilities from within a finite allocation of resources.

Middle level powers aspire to have sufficient military capabilities to ensure the security of their nation, without having to seek external assistance as far as possible. In the pursuit of this self-sufficiency, a number of air forces have been forced to evolve into entities that have all-round capabilities but are constrained in the length of time that they can sustain operations. In this paper, such air forces have been referred to as 'smaller air forces' and their characteristics are explained in detail. The reality is that the current geo-political and economic conditions demand commensurate return for investment from all areas of government expenditure. In a gradual manner this has altered the way in which air power capabilities are acquired and employed. The visibly high capital expenditure required to acquire the hardware for air forces often makes air power one of the first targets in any overarching cost-cutting measures. For a force reliant on high-end, innovative, cutting edge technology for its effectiveness, this is a delicate situation.

Contemporary conflicts have developed peculiar characteristics that have tended to focus the attention on the tactical aspects of a conflict rather than a long-term view. A strategic view of contemporary conflict clearly indicates that the more contentious tactical aspects are merely tactical innovations by an intelligent and adaptive adversary attempting to neutralise the preponderant power of conventional forces that have taken the conventional forces by surprise. From a long-term strategic analysis it becomes very apparent that the fundamentals of warfare—as opposed to the tactics and responses in specific conflicts—have not changed. The follow-on is that it will be an ill-served military force that changes its philosophical doctrine to cater for these tactical aberrations that in the long-term will not leave a visible mark on the broader strategy for the conduct of warfare.

Air forces have been particularly targeted in this conceptual debate to redefine the basics of warfare—to an extent wherein their very necessity is often questioned. This can be brushed aside as emanating from a less than optimum understanding of air power capabilities and an obvious short-sightedness; buttressed lavishly by ignorance of the broader picture of air power projection strategy, military capabilities, fundamentals of warfare, national security imperatives and Grand National Strategy.

Admittedly, air forces are expensive, and therefore it is necessary for them to be able to contribute meaningfully to all national security contingencies and be able to operate effectively across the full spectrum of conflict—from humanitarian assistance to high-end warfare. This requires a continual process of integrating and synthesising doctrinal development, operational experience and tactical innovation. In short, the relevance of smaller air forces to national security is dependent on their capacity to evolve in synchronisation with national security imperatives. In trying to evolve into greater relevance, air forces face a number of challenges at all three levels of war—strategic, operational and tactical—that have to be overcome. Their inherent flexibility and adaptability will be the fundamental characteristics that take the lead in ameliorating these challenges.

Creating confidence in the reliability of air power to deliver its promised capabilities at the time and place required to ensure national security is the only test that can prove the continuing relevance of air forces. Increasingly, smaller air forces are finding themselves being asked to operate in increasingly critical situations that have no black and white solutions, and as such are embroiled in complex exigencies that have no direct and tangible solutions. There are no single-shot solutions to any of these issues and air forces have to rely heavily on their flexibility, and the professional mastery of their personnel, to overcome them. It is imperative that smaller air forces transform into forces of strategic influence that can shape the security environment towards the desired direction of peace and stability.

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It is imperative for air forces to understand their nation's security environment and position themselves to provide the government with multiple response options to emerging crises. This is especially critical for air forces that are limited by resources to be self-sufficient to operate—at the required level and for the duration necessary—across the spectrum of conflict. Otherwise, they face the real threat of strategic oblivion.

Ironically, only nations that do not possess effective air forces seem to fully appreciate the critical importance of air power to a whole-of-government national security apparatus.

INTRODUCTION

There is no doubting the fact that air power has always been a technology-enabled military capability. Further, advances in technology have always had a greater impact on the fundamentals of air power application when compared to the application of land or sea power. Technology is always evolving and therefore, change has been a constant in the development of air power throughout its history. The ability to optimise available technology and the proclivity of air power practitioners to create innovative concepts for its employment have combined to enhance its unique power projection capabilities. Over the past few decades its ability to generate precise, proportional and discriminatory effects has often made air power the primary option of first-choice as a tool employed by governments to ensure national security. While air power enthusiasts are exultant of this position of pre-eminence, the reality is that acquiring and maintaining such capabilities at the desired level of competence is extremely resource intensive and beyond the reach of a majority of air forces.

Today, the world's air forces are grappling with the increasing cost of fielding even a baseline level of air power capability; not always with complete success. When the capabilities required have to be pegged at a higher level, the resource requirements increase by an order of magnitude. Under these circumstances there is a discernible trend amongst militarily less sophisticated nations to view air power as being disproportionately resource intensive in comparison to the capability being made available. For air forces this is the first step in an increasingly one way slide towards irrelevancy. In order to remain a relevant agency in the pursuit of national security imperatives, air forces must balance three disparate factors—maintaining the necessary level of professional competence within the larger air power capability spectrum, building a force structure that permits flexible employment of these capabilities and achieving this within a finite resource allocation.

Another critical factor is the need for air forces to be sufficiently adaptable in order to keep pace with the rapidity of change in the international geo-political and security environment as well as in the evolution of air power capabilities. They also need to be innovative in transforming available capabilities to ensure that they are able to harness the inherent—and at times unique—characteristics of air power. This is a tall order by any standard, made particularly difficult in the case of smaller air forces.

This paper looks at the status of air power within a national effects-based approach to security and enumerates the challenges that air power, and by extension air forces, will encounter in the medium-term future. It then provides an overview of the future direction that smaller air forces must take if they are to continue to stay relevant and competent entities in the broader national security environment.

SMALLER AIR FORCES EXPLAINED

Before exploring the status of air power, it is necessary to explain the term 'smaller air force'. The true measure of air forces is their air power capability-spread rather than purely their numerical size, as has been traditionally done. Therefore, air forces must be classified accordingly (See Figure 1 below). In such a classification, it will have to be acknowledged that the first division will be between the air power capabilities of the United States and those of the rest of the world. Currently there are two kinds of air power—one that is projected by the United States and the second, possessed by other nations. From amongst the other air forces, once again distinctions can be drawn regarding air power capabilities and a few can be elevated to the position of large air forces. These are air forces that have the entire spread of air power capabilities in sufficient quantity and

with adequate redundancy to conduct major, long-drawn campaigns independently without having to avail themselves of assistance from allies. Nations with larger air forces obviously have indigenous industry and support infrastructure to be self-sufficient to a very high degree.

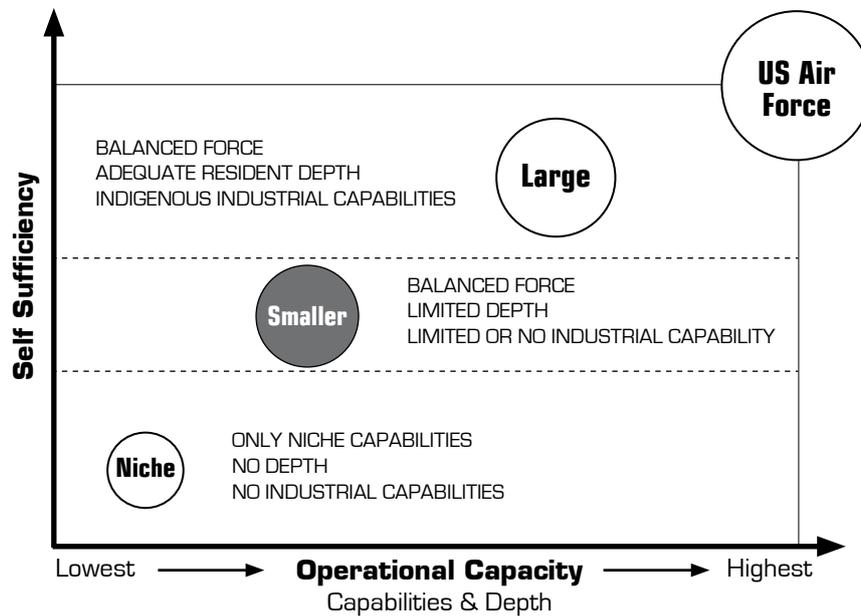


Figure 1. Measure of Air Forces

In comparison, air forces that do not have the full spread of air power capabilities and are able to carry out only a few dedicated roles and/or functions in limited quantum could be termed niche air forces. Such niche air forces possess only restricted numbers of systems because of their lack of resource capacity to acquire and maintain larger numbers of sophisticated airborne systems. In addition, nations with such air forces will be almost completely dependent on external sources—for industrial developments, operational support and infrastructure—needed for the optimal employment of their air power capabilities. Obviously a niche air force will also be of limited importance in the highest level strategic appreciation of national security requirements.

A smaller air force, on the other hand, is one that is situated between the two extremes of the larger and niche air forces for two primary reasons. The first and fundamental reason is that they have resident capabilities to undertake the full spread of air power operations independently. This means that they have the systems, processes and the inherent capacity to deliver all air power functions, roles and missions and are, as such, balanced forces. The second reason is that even though they have all-round capabilities, the sustainability of such capabilities will be limited—in terms of the quantum that can be produced at any one time, the length of time the air force can operate at the required level, and the national indigenous technological, industrial and infrastructural support available. Such air forces make very capable allies and coalition partners and can bring significant capabilities to bear under the umbrella of a large air force-led coalition.

The prevalent geo-political and economic scenario is such that very few nations will be able to maintain a large, effective air force. For nations that do not have a large air force, building one up under the current resource-limited global situation will be almost impossible. However, nations with smaller air forces that already have sufficient capability will find that maintaining this capability is not only convenient, but expedient within the national security apparatus. The advantages of maintaining and regularly upgrading an extant capability will far outweigh the resource implications in maintaining already available capabilities at required levels.

Air power capabilities are not something that can be lightly brushed aside when strategic level national security issues are being considered. Therefore, nations around the world aspire to acquire sufficiency in this domain; sufficiency in this case being defined within individual national perceptions and requirements. A smaller air

force, if efficiently managed, will achieve disproportionately high effects and is more likely to survive as an entity than a niche air force, or in extreme cases, even a large air force. The prime reason for this is the critical requirement for very high resource expenditure on a continuous basis, even during periods of complete peace, needed to ensure adequacy of capability levels in an air force vis-à-vis the requirements of both maritime and land forces. Smaller air forces mitigate this to a certain degree by maintaining capabilities at just the right quantum, thereby effectively reducing resource expenditure while continuing to field balanced air power capabilities.

PREVALENT SECURITY ENVIRONMENT AND NEBA

The status of any power projection capability is dependent not so much on its own capacity to project power, but more on the relative impact of that capability on the environment within which it is employed. Therefore, an analysis of the current status of air power should be undertaken on the basis of a broad understanding and within the context of the international geo-political, economic and security environment.

It is almost cliché now that the international security environment has become more complex, uncertain and dangerous than ever before. When viewed through the prism of national security, this translates to continuous change in the international geo-political scenario that directly affects alliances and coalitions, bringing to the fore bilateral and multilateral tensions that would otherwise not have been of any great significance. A crucial change has been the increasing importance of internal domestic politics in determining the direction of foreign policy. Domestic political compulsions now play a vital role in determining a nation's reaction to external stimuli, especially in matters concerning national security. Another significant change has been the increased proclivity of nation states to resort to the employment of military forces to ensure national security, defined in the broadest possible manner, even while the probability of a state-on-state war has progressively reduced.

Contemporary conflict—here the term ‘conflict’ denotes any employment of the armed forces of a nation—now straddles a range of operations starting at one end of the spectrum with the provision of humanitarian assistance in response to natural or man-made calamities through to high intensity state-on-state conflict, all the way to wars of national survival on the other end. This very broad spectrum of possible employment of military forces is further complicated by the changing nature and unpredictability of the variations in tempo and intensity of conflict at any given point in the spectrum. This places an enormous responsibility on the military forces of a nation. Modern conflict, and its conduct in an invariably political context, demands that military forces be able to respond rapidly in a proportionate, discriminate and accurate manner to all emerging challenges to national security by creating and effectively managing the required effects to counter them.

The changing nuances of national security, and the increased responsibility they put on the military forces are understood by most democratic nations. Further, there is also general acceptance that national security issues have now moved beyond the purview of purely military solutions and that they have to be viewed within a whole-of-government approach to security. In such an approach, all elements of national power—the four major ones being economic, diplomatic, information and military capabilities—are employed in a contextual manner. There is an inherent dichotomy in this situation, for even though the instances of the use of military forces are on the increase, there is a parallel development at the strategic conceptual level of national security that reduces the importance of military action. At least at the highest levels of decision-making there is categorical understanding that contemporary threats to national security cannot be neutralised at the strategic level by military action alone; all elements of national power must act in concert.

A whole-of-government approach to national security is based on a national effects-based approach (NEBA), wherein a lasting solution to security threats will be to alter the behaviour pattern, and ultimately the belief system, of the adversary from which it stems. Since altering the belief system is almost impossible, the ideal solution is to change the cognitive domain of the adversary to more closely align with one's own, thereby ensuring that actions inimical to one's own interests are not being initiated. There are three prerequisites for success in this domain. First, it requires an in-depth understanding of the adversary's culture, compulsions, capabilities and a myriad of other sub-factors in order to be effective. Second, altering the cognitive domain requires a very high degree of cooperation and coordination between all the elements of national power, with success being dependent on a seamless integration of these elements into one focussed security apparatus. Third,

and of critical importance, it requires concerted effort to contain the actions of the adversary in the physical domain in order to plan and institute actions that will target the cognitive domain in relative safety.

NEBA encompasses the creation of three orders of effects—one in the physical domain and the other two in the cognitive domain. The immediate requirement in all conflicts is to stop the actions being undertaken against one's own interests in the physical domain. Military forces normally play a primary role in this and achieve the desired end state by effectively defeating the fielded forces of the adversary. This is the first order of effects and is predominantly a military action. This is also the easiest of the three to plan and execute, requiring the least time, and is therefore, most readily resorted to by nation-states.

Second order effects are achieved by targeting the behaviour pattern of the adversary through a combination of operations in the physical, cognitive and cyber domains aimed at shaping their reasoning system. This will take a comparatively longer time and the contribution of military forces to these operations is contextual in both quantum and lead status. The third order effects are aimed at manipulating the belief system of the adversary to become benign and aligned with one's own. This can only be achieved through a realistic whole-of-government approach and is an extremely sophisticated concept to achieve national security. Success in its implementation is dependent on the capability of the nation to sustain the necessary actions at the required level for a long period of time. The long duration necessary for success is an inherent weakness in the concept and has to be carefully mitigated. It may become necessary in extreme cases to continue to carry out first and second order activities simultaneous to the creation of third order effects. The military contribution to the third order effects is almost negligible, and is largely oriented towards creating a physically safe environment for other agencies to conduct their independent operations.

From this it is clear that the military contribution to a national effects based approach reduces as the order of effects required increases in sophistication and nuance, although the creation of a safe operating environment—the primary requirement for all other activities to take place—is an overarching requirement which only the military can ensure. This could involve shaping activities within and around the area of operations as well as effectively deterring any potential adversary from carrying out disruptive activities. In the national security equation, the critical need to possess an effective military force lies in this paradigm.

CURRENT STATUS OF AIR POWER

This is a brief description, albeit somewhat idealised, of the status of air power that does not take into account the disparate capabilities of the world's different air forces—niche, smaller and large.

Within an effects based approach to addressing strategic security challenges, all elements of national power have their own operational concepts; formulated independently but complimentary to each other and aligned to achieve common national objectives. The military as an entity will be part of this broad group, being supported or supporting other elements as the situation demands. In the current security environment military operations will often be of an enduring nature while other elements carry out diplomatic and rebuilding activities necessary to alter the cognitive domain of the adversary. This is a distinct change from the perception a decade ago that the military should 'win the war' and then move out to let other, more benign agencies 'win the peace.' The military mission has now become enduring mainly because of the rapid changes that have taken place in the strategies and operational tactics of the modern adversary and the complete disregard they have for internationally accepted norms of combat. This has led to a situation wherein the environment in which other government agencies operate is no longer 'safe' or clearly defined, and therefore requires a constant military presence.

From a military perspective, the three independent Services have individual environmental operational theories and concepts that optimise their primary strengths and characteristics. These concepts of operations will ideally fit into the joint concept and thereby permit the military force to operate in a unified manner. Air power is normally the binding force that permits joint application of force since it envelops the entire theatre of operations irrespective of terrain and geography. This places an added responsibility on air forces to be able to comprehend the land and maritime operational requirements and to tailor the air power strategy accordingly.

Air power has the primary mission to obtain and maintain control of the air over all domains. No other operation can be efficiently conducted unless control of the air is assured. The opposite is not necessarily true—control of the air by itself does not assure efficiency and success in other operations. As a result of this maxim, control of the air has always been contested. However, the fact is that the military forces of the advanced world have been able to easily win control of the air in all operations since the 1960s; the last fully contested battle for control of the air being during the Korean War. The almost uncontested winning of control of the air since then has tended to relegate the critical need for a dedicated air campaign to the background. Taking control of the air for granted in the planning and execution of a joint campaign is fraught with the real danger of it becoming a debilitating catastrophe if control of the air is contested, even a little bit, by the adversary.

A comprehensive air power strategy will be drawn from the NEBA, through the overarching military strategy. The strategy is based on the concept of effects based targeting hinged on the four cardinal and unique characteristics of air power—reach, responsiveness, discrimination and precision application. It must be emphasised here that these four characteristics are complex combinations of a number of air power characteristics that embody their individual essence and combine to mitigate perceived drawbacks and enhance strengths. These characteristics are technologically enhanced and, when combined innovatively in holistic employment, position air power in an unassailable position in terms of effective, time-sensitive response to emerging threats. This is one of the fundamental reasons for air power to be considered the first-choice option as a strategic level response to emerging challenges to national security throughout the spectrum of conflict.

Air power has always been a coveted capability. In the contemporary environment where ‘boots-on-the-ground’ is often far from being politically acceptable, air power with its ubiquitous yet generally non-controversial presence assumes increased importance. In addition, calculated asymmetry being pursued by unconventional adversaries against surface forces can effectively be mitigated by the extensive use of air power for all purposes other than unavoidable ground incursions when required. It must also be noted that non-state entities are also acquiring and operating nascent air power capabilities, as demonstrated by the recent air attacks on Colombo by the Tamil separatist group in Sri Lanka and the uninhabited aerial vehicles used by Hezbollah in their conflict with Israel. While such usage is as yet uncommon, the asymmetric threat this development can create must not be underestimated.

Use of force is always a double-edged sword—it can create untenable strategic situations even as the battle is being militarily won at the tactical and operational levels. The discriminatory use of air power can weigh this equation in favour of the force or state using it. In the current global situation this advantage is something to be zealously guarded. An efficient air force can bring about strategic advantages and create the scene for the establishment of a successful national security network. Conversely, the indiscriminate use of air power can create issues at the strategic level that could have long term political ramifications.

While there is still some thinking that denigrates air power employment and questions even the need for an independent force to wield it, air power’s ubiquitous usefulness has rarely been in doubt. The debate regarding the ownership and control of air assets might go on—perhaps an indication of their extreme usefulness in all arenas of national security—but their efficacy and effectiveness, when employed in the pursuit of national security interests, have been displayed too many times in the past for air power to be considered a superfluous capability or dismissed lightly. Those who tend to deride the contribution of air power, especially in countering non-traditional threats to security often focus almost completely on the tactical aspects of national security and cannot fathom the strategic advantages that air power brings to all aspects of contemporary conflict. It must also be noted here that most of the thinkers who advocate making air power a supplementary or even redundant capability in their quest to emphasise the importance of surface forces are from advanced nations that have almost always gone into conflict with the complete assurance of control of the air. The assured protection from air interference in surface operations, provided by their superior friendly air forces, has now not only been taken for granted, but in a dubious manner is sometimes twisted around to make the very same force providing this security irrelevant. Initiating conflict, even with an adversary who has very limited air power capabilities, without assured control of the air can lead to unsavoury situations and vague outcomes. Air power is the lynchpin with which victory and success are built. It can be stated unequivocally that the status of air power as a primary tool of national security has been established beyond any reasonable doubt and remains unquestioned.

FUTURE CHALLENGES

The terms, large, smaller and niche, when applied to air forces, invoke different definitions and understanding of capabilities dependent on a number of factors. The meaning of the term ‘smaller’ as used in this paper has already been explained. However, irrespective of the size of the force, the major challenges facing the world’s air forces and air power strategy are fairly similar in nature, the differences being only nuances of scale and impact.

There are four strategic challenges that will diminish the effectiveness of air power employment by a magnitude if not carefully managed. They are also the most difficult to address effectively. For smaller air forces, the way in which these challenges are understood and overcome will have a determining effect on their relevance to national security. The challenges are:

- maintaining an indelible connection between national grand strategy and air power strategy through a comprehensive and articulated military strategy;
- political imperatives;
- moral courage; and
- the veracity of air campaign planning.

These challenges are explained individually.

At the outset, it is a cardinal requirement for all sovereign states to have an articulated national grand strategy, especially in a volatile politico-strategic environment. Only from this foundational base can a functional national security strategy and a well aligned military strategy that operates within a whole-of-government approach be developed. This process is critical to define the status and position of the military forces within the national security process—failure to do so invariably producing lopsided national security strategies and obviously unsuitable military strategies. Air power strategy, developed within the ambit of this involved process, will have to take into account not only the resident capabilities of the nation’s air forces but also the broader strengths and vulnerabilities of the nation. This would include the national ethos regarding the employment of force, especially in the offensive mode, and is perhaps most important in nations with embedded democratic traditions. With air power being an inherently offensive force projection capability, the development of its strategy is particularly susceptible to this factor. More than any other power projection capability, air power is prone to scathing attacks in the media when unforeseen and unfortunate instances of collateral damage occur in its application. Any collateral impact of air power is readily visible and the political sensitivity to such damage and the media reporting often imposes additional constraints on the offensive use of air power and negatively impacts the free development of its strategy. These, and numerous other, highly visible, extraneous factors must be carefully considered in the formulation of air power strategies. The process to ensure the appropriateness of air power strategy is complex to say the least and requires constant refinement to ensure its broader alignment with national grand strategy.

Political imperatives, stemming from both domestic and external factors, impinge on all aspects of air power, from initial acquisition and training, to the effective operational employment of its capabilities. Domestic socio-economic conditions have a salutary effect on the acquisition of air power capabilities. Their resource intensive nature and the long lead-time required to acquire and effectively operate air power capabilities make it necessary to have assured long term funding, which in turn is a function of the nation’s economic and social strength and stability. The second domestic factor is the comparative importance and trust placed on diplomatic initiatives within the national security strategy. This would determine the kind of air power capabilities that a nation will invest in as well as the strategy of their employment. For example, a nation’s proclivity to employ diplomacy as the primary tool to ensure national security would enforce a deterrent air power strategy based on a demonstrated defensive stance augmented only by selective offensive capabilities. From an external perspective, cohesiveness of alliances is a critical factor that has a direct bearing on the development of air power capabilities. In combination with the perception of possible threats and their immediacy, this would impact the acquisition, development and maintenance of air power capabilities. The irrefutable fact is that political compulsions always have a determining role in deciding the importance and position of air power in the national security equation.

Moral courage at the grand strategic level of governance is a prerequisite for the success of any national security endeavour. The unique characteristics of military operations make moral courage critical to the success of military command at all levels. History is replete with examples of failed military campaigns brought about mainly by the lack of moral courage at the command level either to acknowledge or to remediate the capability deficiencies in the force. Moral courage is not a quality that can be induced overnight and requires careful nurturing over time, especially during extended periods of peace. At the highest levels of national command this can only be achieved when there is transparent and demonstrated mutual confidence between the civilian and military leadership. Such confidence will buttress the moral courage of the military leadership to provide free, frank and diligent advice to the government. Within the military hierarchy the same principles apply for the interaction between different levels of command. Even though moral courage is not something unique to air power and is an all encompassing factor in military planning and execution, it has been listed here as one of the four most difficult challenges to be addressed because of its intangible and deeply personal nature. The consequences of its absence in the security apparatus of a state will be catastrophic in terms of national security.

There are three critical factors of equal importance that pose challenges to air campaign planning—force overstretch, assessment of force level capacity and understanding of weapon system capabilities.

When an outwardly capable force performs below its accustomed level of competency, even when there are no tangible reasons for it to do so, it is more than likely suffering from force overstretch. Force overstretch is a condition wherein the entire force suffers from a gradual, and normally unnoticed, decline in its overall operational capability. Overstretch or its consequences will surface at the most critical moment in conflict, leading to its inability to obtain decisive victory. In other words, this is a condition where the force has lost its cutting edge ability to always prevail over its adversaries by employing adaptive and innovative tactics and concepts of operation. Force overstretch could result from one, or a combination of any, of the following major reasons: long term deployment fatigue; gradual and unnoticed degradation of overall capability brought on by conducting multiple campaigns simultaneously leading to a cascading detrimental effect on operational preparedness and morale; resource constraints that impinge directly on combat capability development; increased stress levels associated with maintaining long-term combat readiness posture; and unforeseen escalation of conflict and random changes in tempo and intensity of operations. Smaller air forces are more susceptible to force overstretch and to being unaware of it because of the necessity to maintain operations at the required tempo on an almost continuous basis without the depth in the force to spread the fatigue to acceptable levels. Therefore, it is of the utmost importance for smaller air forces to institute rigorous procedures to evaluate and ascertain their actual operational competency at frequent intervals. Avoiding force overstretch is critical to ensuring the performance of smaller air forces. Realistic campaign planning must take into account readiness reports, the current deployment state of the force, and other factors to ensure veracity of the plans.

Accurate assessment of force level capacity is one of the most important factors that influence air campaign planning. Any plan based on unrealistic capability assessments is bound to fail. However, there are a number of factors that make accurate force capability assessment a difficult process, even at the best of times. During times of extended peace, these evaluations will tend to smooth over deficiencies and discrepancies that would have an impact on the force's performance in actual operations. The assessment agencies have to overcome the complacency of peacetime self-congratulatory evaluations that brings in and perpetuates a false sense of adequacy. Further, governments—especially democratically elected ones—are more often than not reluctant to admit existing shortfalls in military capabilities. Domestic political compulsions and the civilian leadership's general lack of knowledge regarding military capabilities exacerbate this situation. Air power capabilities are reliant on technology and are almost always technology-enhanced. However, this reliance on technology, if not carefully managed, can also become a drawback. Over-reliance on technology to mitigate capability shortfalls and tide over short-term requirements is a uniquely air power pitfall that is normally overlooked. Campaign planning professionals must be aware of these direct challenges to accurate force level assessment, which is pivotal for effective air campaign planning.

Understanding weapon system capabilities is crucial for realistic planning and successful execution of air campaigns. This is assuming greater importance in contemporary warfare wherein adversaries are employing non-traditional techniques and conventional forces are under increasing constraints in the application of force. Employment of lethal air power capabilities today has to be carefully orchestrated. Faced with the

preponderance of power resident in conventional forces, intelligent adversaries are resorting to asymmetric warfare aimed at blunting the superior capabilities of conventional high-technology weapon systems. This can negate the impact of an effects based approach to the conduct of a campaign. Air forces tend to rely on precision strikes and over emphasise the potency of sophisticated, technology-enabled weapon systems to counter asymmetric threats, which may not always be the optimum response. A clear understanding of the effects that can be created with both lethal and non-lethal application of air power is a primary requirement for all planning staff. The limitations, as well as the strengths, of the available weapon systems in achieving tactical and operational outcomes must always be factored into campaign planning to avoid mission creep, escalation and unforeseen increases in force requirements.

In addition to these four strategic challenges, there are a number of operational level challenges that make the efficient application of air power complex and are already apparent. These will only become more pronounced in the mid-term future. Some of these challenges that will have impact on air power application are:

- future crises will be unpredictable both in nature and timing, affording very little warning time;
- the military command spectrum will increase—having to cater for the usage of artificial intelligence—thereby becoming even more complex;
- associated implications within the laws of armed conflict of the use of artificial intelligence;
- bandwidth limitations will continue to impact on situational awareness at all levels of command;
- the impact of asymmetry at the operational level will increase; and
- unconventional warfare will continue to disrupt traditional power projection capabilities.

Irrespective of the nature of warfare and the type of adversary, air power will be required to achieve a range of effects with discrimination, proportionality and accuracy. It will be on this benchmark that the capability and relevance of air power, and by extension air forces, to national security will be judged. The challenges to air power are many, but they have to be overcome to create confidence and reliability in its capabilities, without which its employment will become questionable. This is a paramount political and strategic imperative that smaller air forces can ill-afford to ignore.

A SMALLER AIR FORCE PERSPECTIVE – STAYING RELEVANT

As the world moves into an increasingly uncertain future, the challenges facing air power are becoming more varied and complex. At the same time the solutions to these challenges are becoming more resource intensive and intertwined with political paradigms than ever before. Successful air forces are aware of the need to address this complexity in order to ensure their relevance in the evolving security environment. In order to achieve this, smaller air forces are increasingly, by design, transforming into innovative, adaptive and learning organisations. One of the fundamental characteristics of all competent air forces is that they are all, without exception, innovative cutting edge organisations—strategically, operationally, tactically—as well as in their capability to accept and exploit technology. This could be attributed to the often difficult birthing experiences of most air forces to Service independence, the indelible connection of competent air power to advanced technology, the readiness and inherent aptitude of air forces to operationalise often unproven technology, and most importantly the willingness and demonstrated ability of air force strategists to think creatively and optimise the application of air power in ever changing political and security circumstances.

Global peace and security have often been challenged throughout history, with only the convulsions within individual sovereign states varying with time and context. This perpetual challenge to stability is currently manifest through the scourges of international terrorism, proliferation of weapons of mass destruction, people smuggling, drug trafficking, environmental issues, the threat of regional instability precipitated by weak governance, failing states and the like. This is the security environment that all responsible nations must take joint responsibility for and work to shape and influence for mutual peaceful ends.

There is a vital role for air forces in this process. The capacity of an air force to be an effective influence in shaping the security environment for peace and stability is directly proportional to its capability to not only

protect the sovereignty of the nation and its interests, but also the resident capability to project power—both in the physical and cognitive domains. For smaller air forces this is a tall order. Smaller air forces can only become effective participants in ensuring national security if they constantly strive to mature as key national security contributors by evolving into forces of strategic influence. This will enable smaller air forces to tailor resident capabilities to best meet their near-term obligations and assure their alignment with national security strategy and imperatives, projected into the future.

It is necessary to explain the difference between air forces, big and small, that are oriented towards strategic influence and ones that function purely at the tactical level in all their actions—from planning to execution and instituting end of conflict measures. An air force of strategic influence will be able to shape the national strategy for the conduct of any campaign; whether it be lethal combat or humanitarian assistance; to ensure that its resident capabilities are adequate for the proposed tasks. This does not mean that the air force will try to tailor the needs of the nation to its own capabilities, but rather that over the long-term, such an air force would have carefully considered the possible national security environment, anticipated the needs that could arise and carried out extensive planning and training to cater for not only the most probable emergent situation, but also the scenarios considered possible but far less likely to occur. Such an air force will develop its capabilities in close coordination with national security policy. Such an approach to the design of the force will ensure that the air force will be able to provide the necessary capabilities with adequate capacity to successfully conduct a campaign in response to any national security need.

The processes that make an air force one of strategic influence, therefore, cannot be undertaken as impromptu decisions. They involve the acquisition of the required capabilities and their alignment with future requirements. Air power requires the longest lead-time of all other military capabilities to fully assimilate advanced weapon systems and this adds a further challenge in the planning process. The need to have a long-term view with sufficient fidelity for this view to be viable through its projected life cycle, which in itself should be a minimum of fifteen years, is of paramount importance for air forces hoping to mature and evolve. The impediments to achieving this are many and varied, and involve issues that derive from the strategic to the tactical.

Unless air forces can achieve the status of an effective element within or as a partner to the broader national security agencies, their relevance to the nation as whole will continuously be eroded. For smaller air forces this is an unviable situation because such a trend can very quickly spiral out of control, leading to complete irrelevance at the strategic level of national security. For most air forces, struggling under pressures of resource constraints, political compulsions and the need to always be correct in the application of force, the writing on the wall is clear and precise—adapt or perish.

The concept of developing air forces capable of strategic influence in shaping the security environment is built around the primary responsibility of all competent air forces—to provide the government of the day with first-rate air power. This would involve being extremely effective in operations throughout the spectrum of conflict, ranging from warfighting to the provision of humanitarian support. Any default on this basic requirement would push the force into irrelevance fairly rapidly. In addition to providing first-rate air power, a number of smaller air forces also have to contend with a geo-strategic dimension in doing so. For example, Australia's geography and demographic spread is such that even domestic military deployments can be considered expeditionary by any standard. For the RAAF, this translates into a core requirement to be enabled for expeditionary operations—whether within or outside the nation to secure Australia's national interests. Meeting the challenge posed by the nation's geography has made the RAAF inherently versatile. More importantly, its expeditionary capability makes the RAAF a critical and front-line element in the government's strategic force employment options.

The demands on smaller air forces are the same as large air forces and require that they be able to project military power independently or as part of joint, coalition and combined teams, while simultaneously conducting peacekeeping and humanitarian assistance operations as part of interagency security initiatives. Even for large air forces this is a difficult task at best and requires very careful husbanding of scarce resources at the highest strategic level. In the case of smaller air forces, the appropriately prioritised allocation of resources and capability assets is critical at all times and assumes the greatest importance when involved in concurrent operations.

In providing first-rate air power, where, when and to the quantum required by broader security requirements, smaller air forces face two major constraints. First, they cannot rely on mass to ameliorate the demands of concurrent operations and have to cater for the disparate demands made on them by nurturing and sustaining operations through effectiveness, efficiency, innovation and professional mastery. Smaller air forces have to create sufficient depth through their professional mastery to compensate for their lack of mass. Second, since general mobilisation is not a viable option for modern democratic nations and air power capabilities of the required standard need a long gestation period to come to fruition, smaller air forces do not have the luxury of rapidly increasing the size and shape of the force when crisis erupts. From an air force perspective these two factors preclude the option of creating a standing core around which the force can be rapidly built-up to cater for emergent situations. Consequently, air forces must plan to fight and win with the force-in-being, partnered with other Services, support agencies, allies and coalition partners.

In addition, maintaining battlespace dominance—a primary pre-requisite for success in conflict—in the face of contemporary asymmetric and complex security threats is becoming increasingly difficult and complicated. For smaller air forces this is a factor that further stretches its limited resources to untenable degrees. These constraints and contextual imperatives will always drive force structure development, which will have to be done within the limitations of the resources allocated from the broader national budget. It is important for all military forces to ensure that this development is faultlessly carried out so that they are able to fulfil their designated responsibilities. For air forces, already operating under added constraints, the necessity to align long-term force structure development with the national security policy and strategy assumes critical importance. There is no doubt that being an efficient air force, one that has clear relevance to national security is not only a complicated process, but also affected by the impact of internal factors and influence of extraneous ones.

The vexed question facing all smaller air forces is whether to orientate force structure development for the ironclad requirement to fight and win wars of necessity, i.e. defence of the sovereignty of the nation against conventional attack, or to emphasise the capabilities required to provide humanitarian assistance and contribute to coalition operations that seem to be the current need of the hour. There is no doubt that, in order to retain long-term relevance, smaller air forces must structure for the most dangerous scenario while retaining the flexibility to undertake operations of choice by building-in inherent adaptability, versatility and innovative capabilities. Such an air force will be able to contribute meaningfully in all eventualities. Such adaptability comes not so much from the material systems that create air power, but from the quality, commitment, education and training—in other words, the professional mastery—of the people who exercise them. Professional mastery—of its people across the breadth and depth of air power, in peace and war—in combination with state-of-the-art air power systems is fundamental to the relevance of smaller air forces and critical to their maturation and evolution into strategically influential forces.

Smaller air forces function at critical mass, and therefore, are normally more focussed on operational and tactical outcomes. In order to stay relevant in the national security equation, a smaller air force will have to evolve from being purely operationally oriented into a force that overlays a strategic focus on its already effective operational competence. Combat power and its projection capabilities will continue to be the cornerstone of air forces' ability to create the necessary effects, by force and with authority. This is the acme of technical mastery—the basis upon which a force's operational excellence and competence is established and maintained. However, a strategically focused force will embellish its combat power with the capability to project both physical and virtual power and evolve the capability to exercise its combat power across all types of operations—not just the ones involving the application of force. This can only be achieved by developing professional mastery of air power throughout the force. Ongoing, comprehensive and broad-based education is a vital component of any successful organisation. For an air force evolving into a strategically focussed force, a vibrant educational culture is not only desirable, but absolutely vital to the development of professional mastery. Professional mastery is a far superior and more expansive capability, built on the base formed by the highest standards of technical mastery. For a force that has the breadth of capabilities required to operate throughout the spectrum of conflict, only professional mastery adds the dimension of strategic influence to the operational competence of the force. In effect, professional mastery is the sum of individual, organisational and cultural experience, knowledge and expertise resident within the force.

Professional mastery of air power involves much more than specialist excellence in a particular function or role. It involves, at a minimum, force-wide understanding of the broader context of the application of air power and demands comprehension of the nation's security environment within the larger international scenario—at the appropriate detail necessary that is commensurate with the level of the individual. The achievement of the minimum required standard of professional mastery—dictated by a number of factors like security threats, capability development, force structure etc—is completely dependent on carefully directed and all-round education. In conjunction with other essential skills and characteristics, professional mastery within the whole force is a foundational requirement for the evolution of smaller air forces into strategic air forces of influence.

The security circumstances are constantly changing, the pace of evolution varying with the influence of a number of new elements and considerations both in the demands made by antagonists and the modus operandi of the combatants. This situation demands that even currently competent smaller air forces undergo a continuous but controlled transformation, in order to remain relevant to the national security requirements. It is apparent that in the modern battlespace, the outcome of a conflict—overt and covert—is determined not by pure physical or virtual military victory, but by winning in the cognitive domain—the behaviour and belief systems—of the adversary. This amounts to dealing increasingly in the 'decision space' of the adversary. The force that pin-points the factors that influence the decision making capability of the adversary, and implements actions necessary to target them, and thereby make the adversary change their mind, will always prevail.

This is decisive application of force, which in the future context of smaller air forces will entail more than the mere physical application of air power. Obviously, technical mastery of the development, generation and application of air power, mainly in the physical domain, will remain the core business of all air forces. However, smaller air forces aspiring to become strategically influential will increasingly need to dominate the cognitive domain as well as the physical battlespace. By doing so, a force can act and react faster than the adversary, thereby seizing the initiative in any conflict, and also control the tempo and direction of the conflict thus being in an overall commanding position at all times. Successful smaller air forces need to build on their operational excellence to transform into air forces of strategic influence above the physical dimension in order to remain relevant into the foreseeable future.

Traditionally, strategic air forces have been measured in terms of long range, heavy payload and the ability to strike at 'strategic' targets. While accepting that kinetic effect still matters and may even be critical under certain circumstances, this traditional view is restrictive in the modern security and conflict environment. It is increasingly clear that a modern strategic air force will be one that can influence both the physical and cognitive domains while simultaneously being capable of deliberately and positively shaping the environment, by design, using the authority of its combat power as a foundation. Air forces of strategic influence will be able to shape the security circumstances appropriate to their context, capabilities and national interests and will have a crucial role in moulding the national security agenda. Strategy is the link between the political ends to be achieved and the available military means that formulate a coherent and deliberate plan of action. In this context, an air force of strategic influence is one that consistently utilises well thought-through strategies to achieve the political ends dictated by the government through the application of military air power consistent with a deliberate and considered plan of action. Such an air force of influence will have the ability, expertise, confidence and capacity to influence all of the domains and environments it inhabits—simultaneously across the entire spectrum of conflict if necessary—both in peace and in war.

Smaller air forces, despite their operational excellence, will always face the risk of being overmatched by larger forces or out manoeuvred by more agile or asymmetric threats. Without ready recourse to qualitative quantity, smaller air forces have to rely heavily on intelligent and constantly innovative means to prevail. This is where the distinction between air forces of strategic influence, and merely tactical air forces, becomes very distinct. Although less in mass, an air force of strategic influence could, through its ability to influence and even dominate the cognitive domain, negate its disadvantage of size and fashion outcomes to its desired ends. The ability to achieve this dominance will be a key capability that distinguishes superior forces from others well into the future. Cognitive domain dominance can only be achieved by the effective integration of the force's capabilities, technologies and people into a harmonious and coordinated whole, capable of applying and projecting power cohesively within the required domain. This is the first essential step for smaller air forces

towards becoming entities of strategic influence and is the only way forward for them to stay relevant in the long-term.

There are compelling reasons for smaller air forces of calibre to embrace this way forward. The consequences of not doing so will be catastrophic to the continued independent existence of these forces. The necessity for air forces to exist as independent forces is not a parochial or biased requirement for Service identity. It stems from the acknowledged need for air power to be wielded cohesively within the proven tenet of centralised control and decentralised execution. Air power is a sophisticated form of military power and professional mastery in all its intricacies can only be achieved as an independent entity. Any other model is bound to fail, however assiduous the attempt.

As instruments of state, air forces typically do not disappear from existence if they do not perform to the satisfaction of their governments. However, they can, and do, disappear from the national security calculus. The danger of smaller air forces not evolving into strategic forces of influence is that they run the risk of becoming less relevant to the changing security circumstances in future years. If they remain purely reactive to emerging threats—excelling at the operational and tactical level of conflict—but are unable to shape the environment to optimise their power projection and employ their capabilities to meet the national ends they would no longer be relevant to the needs of the government and will invariably face oblivion. This is not a viable option for any air force of calibre.

CONCLUSION

It is necessary to reiterate that the prevalent security environment is uncertain and complex and that it is in the collective interest of the comity of nations to ensure that the environment is shaped into a peaceful, prosperous and stable one. Air forces can, and should play a vital role in this endeavour. Recent history has graphically demonstrated that if nations are unwilling or unable to shape the environment, then intelligent and adaptive adversaries; including forces of international terror and criminal elements; will shape it their advantage. This would gradually make the situation spiral out of control and obviously is neither desirable nor permissible in the larger global interest. Air forces are key to ensuring that this slide does not take place.

Air forces have the ability to contribute to the efforts to fashion a stable and secure environment provided they have the necessary capabilities. All air forces are products of their history, their successes and failures at the operational level, and the understanding that the force as a whole has regarding its role in national security. It is imperative for smaller air forces to transform themselves from being excellent tactical forces into becoming air forces of strategic influence, built on the foundations of professional mastery, and equipped and structured to shape and influence the security environment in the direction that the government demands—towards peace and stability. As clever and adaptive organisations, air forces are capable of playing a vital role in positively shaping the paradigms of the security environment. This is the challenge for the coming decades that smaller air forces transforming into air forces of strategic influence cannot fail to deliver.