THE EXPANDED ROLE OF AIR POWER IN THE DEFENCE AND SECURITY OF SINGAPORE

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INTRODUCTION

Since the end of the Cold War, changes in the global security landscape have reduced the probability of large-scale inter-state conflicts. While border and territorial disputes continue to be potential flash points for conflicts around the world, non-conventional security threats such as transnational terrorism, natural disasters and global pandemics have added complexities and posed new challenges for military forces. Air power, a traditionally offensive military instrument, is increasingly employed for Operations Other Than War (OOTW) such as humanitarian assistance, counter-terrorism and peace keeping operations. Concomitantly, the Revolution in Military Affairs (RMA) has significantly increased the cost of modern warplanes and influenced the evolution of air power roles. In order to meet the increasing peacetime operational demands, some air forces such as the United States Air Force (USAF) had even deferred its fleet modernisation and its conventional fighter force over the last decade in order to acquire more unmanned drones for operations in Iraq and Afghanistan.¹

Since the Republic of Singapore Air Force (RSAF)'s first United Nations (UN) Peace Support Operation (PSO) mission to Cambodia in 1993, Singapore has leveraged on air power to advance its international standing and contributes to international efforts in humanitarian assistance, peace-keeping and counter-piracy. At the same time, the success of these OOTW missions and the continued romanticism of air power have also greatly enhanced the value proposition of the RSAF to Singapore in peace.

This essay examines the expanded role of air power as a result of changes in the global security landscape and technology advancements, and highlights the implications to the RSAF and Singapore. It will show that while the roles of air power have expanded progressively and benefited Singapore over the years, Singapore's strategic vulnerability and the uncertain regional security environment meant that the *raison d'etre* of the RSAF should still be to defend our nation's sovereignty rather than to over-extend our limited resources for OOTW. As an effective instrument to secure the interests of a small country like Singapore in peace and war, the RSAF's order of battle should therefore be structured for flexibility in peacetime demands without compromising our abilities to secure a swift and decisive victory when called upon.

THE EXPANDING ROLES OF AIR POWER

The oldest independent air force in the world, the Royal Air Force (RAF), defines air power as "the ability to project power from the air and space to influence the behaviour of people or the course of events." Major General William 'Billy' Mitchell, father of the USAF, referred to it simply as "the ability to do something in the air." It is from the immutable properties of air that we derive air power's fundamental characteristics of speed, range and height. With its ability to bypass the enemy's surface forces and overcome terrain that would impede surface force movement, air power offers military commanders the flexibility and responsiveness to concentrate mass and firepower and strike the enemy's identified Centres of Gravity (CoGs) simultaneously. When implemented as capabilities, it encompasses all aviation uses in the pursuit of a nation's security interests and can be broadly classified into the roles of Control of the Air, Force Projection, ISR (Intelligence, Surveillance, and Reconnaissance) and Attack. As a military instrument, air power can be applied both in offensive and non-offensive manners.

The peak of modern offensive air power was arguably during the height of the Cold War when astronomical numbers of strategic bombers, fighters, nuclear ballistic missiles and long range cruise missiles were held by then superpowers, the US and the Soviet Union (USSR). Since the USSR's breakup in 1991, the US as the sole superpower and its allied NATO air forces have participated only in a few conventional air campaigns in the Middle East (Irag 1991, 2003) and Kosovo (1999). Conversely, global air forces have been involved in far more non-conventional conflicts (Somalia 1993, Haiti 1994, Bosnia 1995, East Timor 2001, Libya 2011, Mali 2012) and disaster relief operations (2004 Asian Tsunami, 2008 Cyclone Nargis, 2009 Padang Earthquake, 2010 Pakistan Floods, 2011 East Japan Earthquake, 2014 Typhoon Haiyan) in the same timeframe. In 2001, the 9/11 suicide attacks by Al-Qaeda also sparked off a long global war on terrorism in Afghanistan and Pakistan, culminating in the killing of terrorist leader Osama Bin Laden. However, due to air power's inability to capture or hold ground, it played a more supplementary role in many of these operations in the forms of force projection, reconnaissance and limited air strikes. Although air power seems to be playing a bigger role in the 2014 US-led effort against the Islamic State of Iraq and Syria (ISIS), it was chosen as the preferred military option mainly due to the political decision to limit boots on the ground rather than its effectiveness in containing an insurgency.

As a result of prolonged peace, some smaller air forces have restructured to address more pressing peacetime requirements while deferring their offensive capability purchases. For example, in 2001 the New Zealand Ministry of Defence removed the Royal New Zealand Air Force's (RNZAF) air combat capability by cancelling the purchase of 28 Block-15 F-16 Fighting Falcon fighters and disbanding its Skyhawk and Aermacchi fighter squadrons.⁷ Today, the RNZAF operates only helicopters, transport and maritime patrol aircraft. In Western Europe, Belgium has also pulled out of the US Joint Strike Fighter (JSF) programme and assigned its 72 ageing F-16s to NATO's collective defence and peace keeping framework since 2000.⁸ Similarly in Switzerland, a lack of general air threats

meant that Swiss fighter replacement programmes were repeatedly delayed, pilots put onto reserve lists and airbases closed at night as their air force's budget was trimmed for other more pressing needs.⁹

The RMA in the 1990s, Global War on Terrorism and the rising costs of modern fighters have also significantly reduced the number of fighter aircraft that the shrinking defence budgets of many Western nations can afford while shifting the acquisition trend to aerial ISR assets such as Unmanned Aerial Vehicles (UAV). This was evident when the US cut its order of F-22 fighters from an initial 750 to a final procurement of only 187 in 2005, while increasing its total number of UAVs to 30% of the air force's order of battle. Due to the high cost of the F-22 and their low numbers, the US also did not field the high-tech stealth fighter during the conflicts in Iraq, Afghanistan or even the relatively low risk 'no-fly' zone enforcement in Libya (2011). Conversely, US Reaper combat drones have carried out numerous counter-terrorism missions in Pakistan and Yemen, while the Global Hawk UAVs have been extensively used for ISR in humanitarian missions such as the 2007 fires in California, the 2010 Haiti earthquake and the 2011 Fukushima reactor leaks. In the ongoing Operation Inherent Resolve against ISIS, UAVs have also proven to be so invaluable in providing real-time tactical surveillance in the targeted operations against terrorists, that the US has sought additional buys in her 2015 budget.

CONTRIBUTIONS OF THE RSAF TO SINGAPORE

Since its inauguration on 1st September, 1968 as the Singapore Air Defence Command (SADC) with a humble fleet of eight Cessna 172s, air power development in Singapore has been driven largely by defence demands. Fresh from the memories of overwhelming



Our UAVs and their operators, under the ambit of Operation Blue Ridge, contributed to the international community's reconstruction efforts to restore stability in Afghanistan.

Japanese air attacks in World War II, Singapore's pioneer leaders recognised that only a strong and capable air force could establish deterrence and safeguard her sovereignty given her small size and lack of depth. As the SADC evolved into the Republic of Singapore Air Force (RSAF), the RSAF built up her basic air defence in the 1970s, established a credible air superiority capability in the 1980s and focused on improving the professionalism of her people in the1990s.¹³ Since then, the RSAF has made significant progress and has transformed from a 1st to 3rd generation air force within a short span of 50 years.

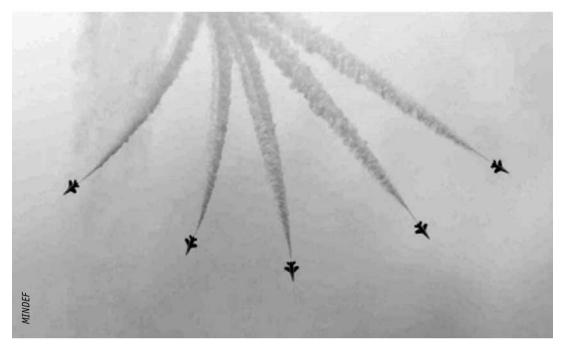
Although the RSAF's mission of defending the skies and safe guarding the sovereignty of Singapore has remained unchanged since its inception, changes in the global security landscape and advancement in technologies have allowed it to take on OOTW, which helps upkeep RSAF's operational readiness and gives it operational experience.

In 1993, the RSAF embarked on its first United Nations (UN) mission by sending four Super Puma helicopters and 65 personnel to Cambodia to assist the UN Transitional Authority in Cambodia (UNTAC) during the electoral process. Since then, the RSAF has expanded her international peace-keeping efforts to include sending UH-1H helicopters to Timor-Leste (Operations Blue Heron), KC-135 tanker aircraft to the Persian Gulf (Operations Blue Orchid) and Searcher UAVs to Afghanistan (Operations Blue Ridge). In addition, the RSAF had provided humanitarian assistance and conducted disaster relief operations to Indonesia and Thailand during the 2004 Boxing Day Tsunami (Operations Flying Eagle), New Zealand after the 2011 Christchurch Earthquake, the Philippines after Super Typhoon Haiyan in 2013, assisted in search and locate efforts of AirAsia flight QZ8501 in December 2014, deployed CH-47s to help combat forest fires in Chiang Mai in March 2015 and also participated in many multi-lateral counter-piracy missions (Operations Blue Sapphire)



An RSAF Super Puma taking off from the deck of Landing Ship Tank RSS Endurance while in the Gulf of Aden as part of multinational anti-piracy efforts there.

in the Gulf of Aden since 2009.¹⁵ These efforts have earned Singapore goodwill from neighbouring countries, enhanced our standing as a responsible member of the UN and international community and protected our strategic interests as a small maritime nation.



The RSAF's Black Knights continue to be a crowd favourite at the Singapore Airshow and various other aerial display events.

Another significant, albeit less tangible contribution of the RSAF, is her efforts towards the nation-building of Singapore. As the representation of air power in Singapore, RSAF aircraft have captivated Singaporeans with the National Flag fly-pass and aerobatic displays at National Day Parades for decades. As shown by the consistent large turnouts at the Singapore Airshows and the popularity of the RSAF's Black Knights aerobatic team, Singapore's air power has been an enduring source of national pride and continues to generate strong appeal among Singaporeans. An explanation for this appeal may be attributed to the romanticism of air power which has existed since the early days of aviation. Former British Prime Minister Harold Macmillan once remarked that "we thought of air warfare in 1938 rather as people think of nuclear warfare today," while Sir Winston Churchill had opined that "air power may either end war or end civilisation." As a conscript nation that depended on National Service to protect the homeland, this romanticism of air power played a key role in nation-building as it translated to widespread support for the RSAF and enabled institutional trust to be established between Singaporeans and the Singapore Armed Forces (SAF).

In view of the expanded peacetime roles of air power and their significance to Singapore, should the RSAF invest more in its OOTW capabilities to further strengthen its value in peace, or should she continue to build a strong conventional force with her limited resources to achieve deterrence and victory in war? As with most air forces, the impetus for the RSAF

to invest in OOTW capabilities is undeniable and inevitable. However, it is also paramount that the RSAF's force structure remains sufficiently flexible to meet additional peacetime demands without compromising her war-fighting capabilities due to uncertainties in the regional security environment and Singapore's inherent strategic vulnerability.

UNCERTAIN SECURITY ENVIRONMENT AND STRATEGIC VULNERABILITY

While there has been relative peace in Southeast Asia since the end of World War II (WWII), there are significant geo-political undercurrents that can quickly alter the security environment. Unlike the resolute peace in Western Europe, the fragile peace in the Asia-Pacific belies a much more unstable situation.

In the last decade or so, Asian nations have been spending increasingly on their militaries and this has resulted in concerns over a possible arms race in the Asia Pacific region. For example, South Korea continues to commit billions to its fighter acquisition programme, while Japan has recently committed to the F-35 Joint Strike Fighter (JSF) as its next generation fighter, as they grapple with increased tensions in the region. Closer to home, ASEAN nations such as Indonesia and Malaysia are embarking on the KF-X fighter development project and the Multi-Role Combat Aircraft programme respectively to boost their defence capabilities. While some of these air power acquisitions can be rationalised as developing nations modernising their defence due to their growing economies, this modernisation can easily turn into an arms race should relationships deteriorate.

Regionally, the rapid economic development and increase in energy demands from emerging states have also created potentially destabilising flashpoints from resource and territorial disputes with their smaller neighbours. For example, competing claims in the South China Sea has already strained relationships with regional countries such as Vietnam, the Philippines, Japan and to a lesser extent, Taiwan. Countries such as the Philippines and Australia have recently announced their decisions to acquire the FA-50 and the F-35 JSF fighter aircraft respectively, to strengthen their air forces in a bid to counter any aggressive expansion into the South China Sea and the Indian Ocean.²³ Nonclaimant states to the South China Sea islands, such as Indonesia, are also bolstering its defence in the Natuna Islands with warships and Apache gunship helicopters in order to protect its Exclusive Economic Zone (EEZ).²⁴

By virtue of her geographical location and small physical size, Singapore will always be inherently vulnerable as a nation due to her dependence on international trade and lack of natural resources. As seen through the *KRI Usman Harun* naming incident in Indonesia, Singaporeans are also reminded that even good bilateral relationships can face challenges.²⁵

WAY FORWARD FOR THE RSAF

With increased peace time demands, the key to continued success for the RSAF from peace to war is in finding the right mix and balance of air power capabilities without overcommitting resources. In order for the RSAF to continue supporting future peace time operations, one possible approach is to adopt a portfolio approach to acquisition and establish a wide range of capabilities that the RSAF can potentially offer to international efforts in times of need. While this approach ensures that the RSAF would be capable for a wide array of peacetime operations, the cost of up-keeping these additional assets cannot be underestimated and their actual utility may be limited if not called to action. A more focused approach would be in the judicious acquisition of 'dual-use' platforms such as multi-role transport aircraft, helicopters and UAVs that are essential in war and can also provide much needed transportation and surveillance functions in a civil disaster relief operation. This acquisition approach will ensure that the RSAF's force structure remains focused on national defence, but have sufficient capacity in certain key areas during peace time to respond to contingencies. Ultimately, this approach will provide better prudence for the RSAF in managing resources, while providing national policy makers with military options to advance Singapore's national interests.

CONCLUSION

The changes in the security environment after the Cold War and the RMA have helped shaped new trajectories in air power and for global air forces towards OOTW and non-conventional military operations. In Singapore, air power has played a significant role in the development of the nation and the SAF through the evolution of the RSAF. As the RSAF embraces her expanded roles in peacetime and strives to contribute to Singapore's national interests, the strategic constraints faced by Singapore are unlikely to change amid an increasing volatile security situation in the Asia-Pacific region with the rise of new hegemonic states. With air power continuing to play a critical role in the defence and security of Singapore, the RSAF will need to calibrate her efforts when participating in international missions and balance her force structure and defence acquisitions to address both conventional and unconventional threats throughout the operational continuum.

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