

Colombo Air Symposium

“Air Power in Addressing Asymmetric Threats”

12-13 October 2017

“Eagles’ Lakeside Banquet and Convention Hall”

Colombo, Sri Lanka



MESSAGE FROM THE CHIEF GUEST



Hon. Ruwan Wijewardene
The State Minister of Defence

I am pleased to send this message of felicitation for the Air Symposium 2017 of the Sri Lanka Air Force. This significant annual Air Force event provides a window to envision the future in line with our neighbouring nations and the experts in the fields of defence and security.

It is quite obvious the fact that the countries in our region pay much attention to the regional defence and security due to the grave repercussions which are being brought forth by global terrorism and its underpinned determinants such as ethno-nationalism, drug trafficking, socio-economic differences, complicated political issues and religious extremities. The insurmountable challenges that we face as a region to mitigate terrorism clearly persuade us to think proactively in attaining the air superiority as a collective to defeat common threats which are possible to arise at any given moment.

When we consider the common issues in the region, we are all competent in fulfilling our share of duty as an experienced and potential air power which is open for defining collective solutions as well collective operations. In this respect, it is apt that Sri Lanka Air Force seeks to deliberate on the area of regional air power application in this particular moment where a greater understanding and cooperative actions are needed. Certainly, Sri Lanka as a nation has to transform its strategic defence policy to establish air power for the South Asian defence purposes by means of collective efforts with friendly nations.

In fact, I am extremely glad that the Sri Lanka Air Force has taken up the challenge of holding the prestigious Air Symposium for the third time, conceptualizing the “Application of Air Power in Addressing Asymmetric Threats” as the theme.

I wholeheartedly thank the foreign delegates and their respective governments who represent the global community and I hope their scholarly contributions will undoubtedly lay a strong foundation for policy level changes that assure the defence and security of the region. I take this opportunity to extend my best wishes for a successful event and I congratulate the Commander of the Sri Lanka Air Force for the task well accomplished.



MESSAGE FROM THE DEFENCE SECRETARY



Kapila Waidyaratne PC
Secretary to the Ministry of Defence

It is with utmost pleasure that I pen these words of felicitation in the remarkable occasion of the Colombo Air Symposium 2017 organized by the Sri Lanka Air Force. This momentous annual occasion is a stepping stone to foresee the Air Defence strategies of the regional countries and to share the visionary beliefs and ideas of stalwarts in the field of military and defence services. Hence, I cherish the idea that the Sri Lanka Air Force has taken up the Herculean task of hosting this significant forum for the third consecutive time under the theme “Application of Air Power in addressing asymmetric threats”

As a developing country, today Sri Lanka in a way is faced with the challenge of Global Terrorism, and its outlook seems to be drifting from conventional to unconventional warfare, aggravating the situation and forcing countries to think of diverse strategies in order to combat such unconventional warfare. Despite the success in conventional warfare, recent experiences have demonstrated the challenges of pursuing a counter insurgent strategy against asymmetric threats, such as improvised explosive devices or suicide bombers. The asymmetric tactics adopted by insurgents often leads a weaker force to debilitate a stronger one by misusing the stronger one’s weaknesses rather than facing head on in conventional battle.

Therefore, the Colombo Air Symposium 2017 will pave the way to establish and enrich new security and air defence tactics in order to address unconventional warfare, drug trafficking, shortcomings of disaster management and rescue operation strategies, and more importantly cyber security threats.

Conclusively, I would extend my heart felt gratitude for the foreign delegates who contributed enormously in sharing their gathered experience and expertise knowledge. I also thank the Commander of the Air Force for taking all measure in organizing this occasion in such a grand way and all think tanks as well as all others who supported in making this Symposium a reality.



MESSAGE FROM THE COMMANDER OF THE SRI LANKA AIR FORCE



Air Marshal Kapila Jayampathy

WWV, RWP, RSP and three bars, MSc (Int Rel), MIM (SL), fndu (China), qhi

Commander

Sri Lanka Air Force

I consider it an honour and a privilege to pen this message as the Commander of the Sri Lanka Air Force and welcome you to the Colombo Air Symposium 2017. I am pleased to note that this is the third edition of this international forum and it makes me proud to highlight that this Symposium has been continually improving to reach greater heights. The Colombo Air Symposium is a platform for civilian and military leadership, academics, researchers and analysts to deliberate on a timely topic of the defence and security sphere, share their knowledge on the theme and present their research to a learned audience. Further, it is pertinent to emphasize that this is the only scholarly communion where the thematic representation converges the concept of airpower and the global security environment.

Accordingly, the theme of the Colombo Air Symposium for this year is “Air Power in Addressing Asymmetric Threats”. The concept of asymmetric threat, which is to be assimilated in relative terms, identifies the threat that seeks to exploit the weaknesses of a state or government in the security environment. In the quintessential sense, the threat of terrorism that oppresses the population and an insurgency movement that seek to destabilize a government are examples of such asymmetric threats.

However, in the globalized and interconnected world, security hackers and web predators pose a grave asymmetric threat to cyber and information security networks. These instigate the paradigm shift in the security environment around the world with debilitating impact on the security architecture. Furthermore, the presence of these security concerns create the strategic ambiguity, particularity in the state’s response to such threats and the means to curb these perturbations. Against such backdrop, the role of air power as an instrument of state’s response to address these asymmetric threats take precedence and warrants further enquiry.

As such, the Colombo Air Symposium is apt to table this topic and deliberate on its nuances with the employment of air power to address the asymmetric security concerns in the national, regional and global context. I sincerely expect that the research authors, participants and the observers will engage in stimulating discussions and formulate solutions for the issues, which pervade the world today.

On behalf of the Sri Lanka Air force, I extend my heartiest gratitude to all representatives of the foreign military forces and the academics who have made the commitment to make this an international event, in its entirety. Undoubtedly, Colombo Air Symposium 2017 intends to create a forum for the likeminded community to network among each other and benefit through the process of peer learning.

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In conclusion, I convey my great appreciation to Honourable Ruwan Wijewardane, the State Minister of Defence and Mr. Kapila Waidyaratna Secretary to the Ministry of Defence for the continued patronage and all the distinguished invitees and participants for showing their commitment to knowledge production in Sri Lanka. I am proud to felicitate the organizing committee for all the effort and commitment for this event, to distinguish this conference as one of the most sought after research symposiums in Sri Lanka. Finally, my best wishes to all the research authors and presenters for a Symposium full of zealous enthusiasm and profound discussions. Again, on behalf of the Sri Lanka Air Force, I offer my sincere gratefulness to all the participants of the Colombo Air Symposium 2017.

MESSAGE FROM THE DIRECTOR TRAINING



Air Vice Marshal PDKT Jayasinghe

RWP, RSP and Bar, USP, MSc (War Stu & Def Mgt), Msc (Def Stu) in Mgt, MoSS (Ban), LLB, aowc, ndc

Director Training

Sri Lanka Air Force

I consider it a great honour and a privilege to pen these few words on the occasion of the “Colombo Air Symposium - 2017” which the Sri Lanka Air Force is hosting for the third consecutive time. Step by step this forum has grown in stature and maturity enriching the thought process of the defence establishment in Sri Lanka whilst embracing the cross involvement of regional neighbours and other friendly nations, pivoting around the central pillar of air mindedness.

Considering the emerging generation of warfare where known boundaries of nations, militaries, communities and the cyber domain is increasingly blurred, there could not be a more apt theme than what has been selected for this year, titled “Application of Air Power in addressing asymmetric threats”. As we come to understand the gruesome realities of emerging threats not only to states or communities but the very individual itself, it becomes even more important to be geared and prepared in advance which will enable us all to collectively outsmart, outthink and finally outdo any adversary.

I would like to take this opportunity to offer my sincere thanks to the Commander of the Air Force, Air Marshal Kapila Jayampathy for his continuous guidance and inspiration given. I would also like to thank the Chief of Staff and the Air Force Board of Management for their assistance which they have readily extended in organizing this mega event. I personally know that organizing an event of this magnitude and stature is no easy task. Thus, I would like to make a very special mention of thanks to the Organizing Committee who, collectively bore a colossal responsibility in bringing this event to reality. Last but not least I wish to thank the research authors who painstakingly put together research work which are above and beyond anybody’s expectations.

I wish the “Colombo Air Symposium - 2017” all the best.



MESSAGE FROM THE CHAIRMAN ORGANIZING COMMITTEE



Air Commodore HSS Thuyacontha

WWV, RWP and two Bars, RSP and Bar, USP, MSc (Def & Strat Stu), psc

Chairman Organizing Committee

Colombo Air Symposium 2017

I consider it as an honour to forward this message on the occasion of the 3rd Air Symposium organized by the Sri Lanka Air Force. As the key stakeholder in national security and the sole executor of the nation's airpower, it is of paramount importance that the SLAF deliberates on various areas of interest in order to perfect its approach in application of air assets.

In a rapidly shrinking world, no individual, community or nation can stand alone and walk alone. In the intricately connected environment, the regional and on some occasions global, stakeholder involvement in addressing common issues has become essential. The biggest challenge today before the military powers is identifying and mapping unconventional and asymmetric threats where they are largely devised and daily exercised. In this respect, it is apt that the SLAF seeks to deliberate on the connectivity of the regional air power application in encountering the present scenario. Hence, the Air Symposium 2017 is themed on "Application of Air power in Addressing Asymmetric Threats".

This symposium also highlights yet another milestone for the SLAF as it is the second occasion where overseas authors are integrated to our deliberation process. It certainly would augur well for the SLAF to initiate a dialogue with the international forum in benchmarking our progress in the years to come.

The success of this symposium is mainly due to the positive encouragement and guidance that I have received from the Commander of the Air Force and the members of the Air Force Board of Management from the onset. My heartfelt thanks goes out to all the research contributors without whose effort this symposium would not have been a reality. Last but not least, I wish to extend my heartfelt gratitude to the Chief of Staff of the Sri Lanka Air Force, the Director Training, the organizing committee, the staff of Eagles' Lake View Banquet Hall and all others who, in numerous ways helped to make this event a huge success.



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OVERVIEW

The Sri Lanka Air Force is proud to host the Colombo Air Symposium 2017 for the 3rd consecutive year, providing a venue for the senior military leadership and other experts to discuss and examine the present and emerging global security concerns in depth and the role of Air Power in addressing such threats. The Colombo Air Symposium brings together the knowledge of military professionals and experts in various related fields into one forum that seeks the modes of effective deployment of collective air power in addressing common issues of today and the future.

The Colombo Air Symposium 2017

The Colombo Air Symposium 2017 is themed as “Application of Air Power in Addressing Asymmetric Threats”, highlighting the wider global concerns on this subject. Asymmetric threats derive when two or more uneven powers are in a battle. Unless the weaker party gets smarter and foresighted the victory of the stronger party is inevitable. This urges the weaker force to seek unconventional methods to reach their goals. Instead of taking a linear approach the asymmetric strategy unfurls at varying levels of a security system. The asymmetric threats impose impulsive and extreme pressures on most unexpected areas through highly unconventional attacks causing unpredictable disruptions to the normalcy of life. The combination of guerrilla tactics with the modern technology can easily stun a conventional military force for a considerable time and defeat it despite of the entire men and the weaponry it deploys to confront the weaker force.

The experiences of devastating impact of asymmetry in attacks are as ancient as the human military history itself. Although ‘expecting the unexpected’ is the key concern of the defence and the security, the modern security threats have brought about most unexpected combinations of approaches to weaken a well equipped but a conventional security shield. Cyber warfare, urban warfare, illegal cartels of criminals, drug and human trafficking, illicit drone operations and ultimately the nuclear interests of the terrorists have urged the defence professionals to develop innovative, flexible and swift approaches to address possible asymmetric threats in the future. The air power, as the most significant hand of a military system has encountered with a constant challenge that requires greater preparedness and high-tech capabilities in order to provide effective assistance in an asymmetric threat situation.

Terrorism is the ultimate materialization of asymmetric threats and Sri Lanka has experienced the atrocities of a 30 year long terrorism that did cost thousands of human lives and billions of national money. Sri Lanka has faced many challenges and problems during last three decades until the war was ended and country has become unified. The military coup attempts, communal riots, armed revolts, external military interventions, assassinations of heads of states and terrorist violence occur on regular basis and above all, long secessionist wars threaten to tear countries apart due to the fluctuating geopolitical atmosphere and the wide diversities of the people.

Henceforth, finding solutions to global issues together by all nations is essential in creating a wider mechanism to counter the dynamic nature of asymmetric threats and this year’s theme is an apt approach on this subject.



The Colombo Air Symposium 2017 will widely discuss on the application of air power in countering asymmetric threats under six perspectives through 12 researches presented by the experts and the scholars that represent diverse areas in the fields related to defence and air power.

- New Landscape of Threats
- Regional Landscape
- Advanced Persistent Threats
- Air Power and Small States
- Drones; Friend or Foe
- Air Power and Counter Terrorism

Venue of the Symposium and the History

The venue for the symposium is the Eagles' Lake Side Banquet and Convectional Hall situated in a water side view in Colombo, the capital of Sri Lanka. Colombo, being the historic and the prominent port city of the island retains its place as the commercial capital for more than 500 years now. The city has got its prominence owing to the ancient harbour which is located in the close proximity to the east-west trade route and it was the main reason for the Portuguese, the Dutch and the English to fight for the tenancy of the city. Today, emerged as the most populated and highly interactive hub of the country, Colombo relates her legend through the spectacle of historic buildings that lasting for many eras, ancient channel systems and place names that would take you along the most happening passages of the Sri Lankan history. Naming the annual international SLAF conference as "The Colombo Air Symposium" adds fame to the event and highlights the city in the world map.

The first ever Symposium organized by the SLAF was held in 2015 at "Eagle's Lakeside Banquet and Convention Hall" in Attidiya – Colombo on 30 November 2015. This inaugural session was themed "Nation Building through Maritime Air Security" and eight research papers were presented under four different segments related to the theme.

The second Symposium was held at the same venue on 1st and 2nd December 2016 under the theme "Air Power in the Context of Regional Defence and Security" and 12 research papers were submitted. The Air Symposium 2016 was significant due to the international research contribution of four eminent military experts representing Australia, India, Pakistan and Bangladesh.

Both previous events were impressively successful with many research contributions from foreign and local service commanders, senior officers of the tri-services, intellectuals and subject experts. The intellectual enthusiasm invoked by the previous years has caused a significant increase in research submissions in 2017 and this strongly confirms the achievement of our greater objectives in the time to come.



OBJECTIVES

The 'Air Symposium 2017' is themed on "Application of Air Power in Addressing Asymmetric Threats" with the wider objectives of creating a forum for understanding and addressing the asymmetric threats looming on national and global defence setup as well the measures of optimizing air power in confronting them.

- To initiate a dialogue on the increasing security concerns related to asymmetric threats and the application of air power in countering them successfully.
- To create a platform for knowledgeable and intellectual discussions on the contemporary and potential air security issues on the regional and global levels as well to build up a forum for coining viable solutions to cope with them.
- To enrich the discourse on the importance of collaborative air power for national, regional and global security concerns.
- To develop the awareness on the advantages of exploiting the future avenues of networking the academia of global air power in order to facilitate smooth transferring of knowledge and technology across the borders.
- To encourage and facilitate the learning culture among the military leaders and interest groups in order to reach the wider expectations of defence and security that encloses the humanitarian aspects of the air power.
- To provide a channel to disseminate innovative ideas, views, and findings on specific areas related to the air power, defence and security.
- To create a greater understanding and awareness on the importance and the effectiveness of developing a collective mechanism to deploy the global air power in handling common issues.



Speakers' Profiles



Hon. Ruwan Wijewardene
The State Minister of Defence



Hon. Dinendra Ruwan Wijewardene was sworn in as the State Minister of Defence of the Democratic Socialist Republic of Sri Lanka on 12th January 2015 and is one of the youngest politicians to hold this important portfolio in the modern history of our country.

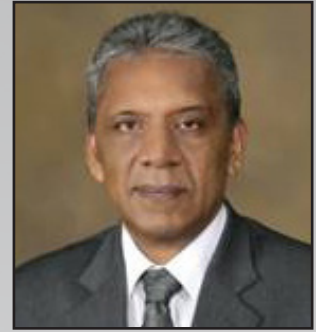
Hon. Wijewardene began his school life in 1981 when he was enrolled into one of the best private schools in the country, St. Thomas' Preparatory School in Colombo. As a brilliant student he not only exhibited excellence in studies but was also an avid sportsman. He began to reflect inborn leadership qualities as early as his school days both in the playing field and in the school. In 1991 the school management bestowed the responsibility of the Head Prefect. After completing primary and secondary education at St. Thomas he later joined Stafford International School in 1992 and completed the London A/Levels.

In 1995, Mr. Wijewardene left the country to the United Kingdom to continue his higher studies. He entered the Sussex University, a prestigious seat of learning in the UK. He returned to his motherland where his destiny to greatness awaited with a BA in Politics (Specializing in Third World Politics). Due to his visionary desire to assiduously serve his people and the nation he continues to seek ways and means to enhance his knowledge, experience and exposure both within and outside the country. He as recently as in 2013 completed a leadership course at the East West Center in Hawaii, which was designed for young elected Representatives of Asia and the Pacific.

Hon. Ruwan Wijewardene hails from a well-connected political dynasty that had produced many freedom fighters and national leaders who had led the country since its independence from colonial powers. In 2009 on contesting the Provincial Council Elections he was elected to office as a Member of the Western Provincial Council after securing the highest preferential votes of the then main Opposition, the UNP, in the District. He gained national prominence when he entered to the Parliament after successfully contesting the Parliamentary Elections in 2010. From April 2011 till date he acts as the Chairman of the National Youth Front which is the principle youth wing of the UNP.

For Hon. Ruwan Wijewardene to be offered an important portfolio as Defence is testimony to his personal ideals of politics. His appointment as State Minister of Defence by His Excellency the President Maithripala Sirisena subsequent to the Presidential polls in January 2015 reaffirms the qualities that were identified in him by his political mentors.

Kapila Waidyaratne PC
Secretary to the Ministry of Defence



Mr. Kapila Waidyaratne was appointed as the Secretary to the Ministry of Defence on 04th July 2017 by His Excellency the President and the Commander-in-Chief of the Armed Forces of the Democratic Socialist Republic of Sri Lanka. Prior to his present appointment he worked as a Senior Additional Solicitor General of the Attorney General's Department of Sri Lanka.

Being a prominent past pupil of the prestigious St.Thomas' College -Mount Lavinia, Mr. Waidyaratne received multiple awards during his school career including the 'Victoria Gold Medal' for his outstanding performance in both academics and sports. He obtained a Bachelor's Degree in Arts with a specialization in Economics and Master's Degree in International Relations from the University of Colombo. Following his legal studies at Sri Lanka Law College, he was also enrolled as an Attorney of the Supreme Court of Sri Lanka in the year 1982. He is also a solicitor for Wales and the United Kingdom.

In the year 1983, Mr. Waidyaratne joined the Attorney General's Department as a State Counsel and was promoted to the position of Senior State Counsel in the year 1994. He was elevated to the position Deputy Solicitor General in the year 2005 and an Additional Solicitor General in the year 2014. He was appointed as a President's Counsel of the Democratic Socialist Republic of Sri Lanka in the year 2015 for his unblemished service record and his noteworthy contribution to the Legal Profession of Sri Lanka.

During his career at the Attorney General's Department, Mr. Waidyaratne was involved in a number of complex and controversial criminal prosecutions in the country. He also headed the Criminal Division of the Attorney General's Department and has provided supervision in areas such as human trafficking, migration, bribery and corruption, money laundering etc. He has advised the Government of Sri Lanka and related institutions on various legal issues, related to criminal and civil matters. Mr. Waidyaratne has been a member of the National Committee – UNCAC Review, Legal Consultant to the Financial Intelligence Unit in the Central Bank of Sri Lanka from 2010 – 2011 and a visiting lecturer on Migration Studies (Diploma Courses) at the Bandaranaike Centre for International Studies. He is also a life member of the Sri Lanka Bar Association and was member of the Environmental Law Review Committee under the Central Environmental Authority of Sri Lanka. His professional affiliations extend to institutions such as the Medico-Legal Society and the Asia Crime Prevention Foundation of Sri Lanka.

Mr. Kapila Waidyaratne also served as a Prosecutor and a Trial Attorney at the United Nations International Criminal Tribunal for Former Yugoslavia (ICTY) from the year 1998-2003. He has acted as a resource person for the International Labour Organization, the International Organization for Migration in Sri Lanka and Australia - Sri Lanka Mutual Legal Assistance programme.

Mr. Waidyaratne has attended a number of international conferences including the Bali Process on People Smuggling and Trafficking and related Transnational Crimes, 2011 Ad hoc Group Senior Officials Meeting held in Sydney, 2003 Annual Meeting of the Asia Pacific Group on Money Laundering held in Macau and in the People's Republic of China, the 2004 Commonwealth Workshop on Capacity Building in Combating Terrorism held in Singapore and the 2005 South Asian Regional Conference on Detecting and Preventing Terrorist Financing held in Colombo.



Air Marshal Kapila Jayampathy

WWV, RWP, RSP and three bars, MSc (Int Rel), MIM (SL), fndu (China), qhi

Commander

Sri Lanka Air Force



Air Marshal Kapila Jayampathy joined the Sri Lanka Air Force in March 1982 as an Officer Cadet in the General Duties Pilot Branch in the 10th Officer Cadet intake. Upon completion of Basic Ground Combat and Flying Training he was commissioned as a Pilot Officer in the GDP Branch in April 1985.

He was bestowed with many appointments in the SLAF, including Qualified Helicopter Instructor (QHI) with an exceptional A-2 Instructor grading to his credit as the youngest QHI in SLAF history, VIP & VVIP rated pilot in No 04 Helicopter Squadron, Commanding Officer of the No. 07 Helicopter Squadron at Sri Lanka Air Force Base, Hingurakgoda in 1994, the Chief Instructor Bell 212 helicopters and Bell Jet Ranger helicopters, the Commanding Officer of No 06 Helicopter Squadron at Sri Lanka Air Force Base Vavuniya in 2000, the Base Commander of Sri Lanka Air Force Base Hingurakgoda in 2002 where he was the driving force behind introducing and establishing the AIR BASE DEFENCE AND RESCUE (presently known as the Regiment Special Forces) squadron of the SLAF, the Defense Advisor to the Sri Lankan High Commission in Pakistan in 2005, the Base Commander SLAF Base Katunayake, at the peak of the LTTE threat and was also appointed as the Competent Authority for the Bandaranayake International Airport by his Excellency the President and the chief security coordinator for 15th SAARC Conference.

In the year 2008/2009 he was sent to National Defense University of China to follow the National Defense Course, earning the distinction of being the first officer of the Sri Lanka Air Force to be nominated for this prestigious course. He graduated from NDU China with distinguished colours and a fellowship.

In 2009 he was appointed Commandant SLAF Academy, the premier academic institute in the SLAF. He was appointed as a member of the Air Force Board of Management to the position of Director Logistics in 2011, he was also appointed as the Director Air Operations in addition to his duties as the Director Logistics in 2014.

He is proud to wear the 'Deshaputhra' medal on his chest, as he was the first battle casualty in SLAF when he flew his helicopter back to base safely after he was shot by the enemy, ensuring the safety of the assets and human lives which were in his hands. He has been awarded many decorations for bravery, dedicated service and exceptional flying capability displayed in the face of the enemy attacks in the North and Eastern theaters of the country namely; Weera Wickrama Vibhushanaya, Rana Wickrama Padakkama and Rana Sura Padakkama and three Bars.

Air Marshal Kapila Jayampathy depicts interests in swimming, music, golf and a father of four children. Ultimately, in September 2016 he was privileged to be sworn in as the 16th Commander of the Sri Lanka Air Force.



Air Vice Marshal PDKT Jayasinghe

RWP, RSP and Bar, USP, MSc (War Stu & Def Mgt), Msc (Def Stu) in Mgt, MoSS (Ban), LLB, aowc, ndc

Director Training - Sri Lanka Air Force



Air Vice Marshal PDKT Jayasinghe is a product of Ananda College, Colombo and he joined the Lanka Air Force in 1985 as an Officer Cadet. He accomplished all his operational conversions at No 4 Helicopter Squadron well before his commissioning. He was deployed in Jaffna by the end of 1986 as an operational pilot where he actively took part in all major offensives against the terrorism in its birthplace. Being the first ever to earn a Gallantry award (RSP) as an officer cadet for volunteering for a special operation carried out in a highly dense terrorist ground predicted his capacity as a combat pilot in the future. He was commissioned to the rank of Pilot Officer in January 1987, thereafter he served the country holding different positions at different capacities.

He participated in almost all major military operations against the then prevailing terrorism. He has commanded the No 8 squadron Ratmalana and soon after the first terrorist air attack he was appointed as the Commanding Officer Air Defence Command and Control Centre. He has commanded the Sri Lanka Air Force Base Anuradhapura, Vavuniya, Rathmalana and the Sri Lanka Air Force Academy China Bay, the prominent training institute of the SLAF.

He obtained his Masters' degree with a merit pass from the Kotelawala Defence University (MSc in Management) in 2005. In 2009/10 he followed the Allied Officers War Course at National Defence University Pakistan and graduated with "A" grading in MSc in War Stu & Defence Mgt. In 2012 he has followed the National Defence Course at National Defence College Bangladesh and graduated with the Master of Security Studies (MoSS) with the distinguished title ndc. He also attended courses on Comprehensive Security Response for Terrorism in Hawaii, USA. Recently he had successfully completed LLB degree at Open University Colombo. He is also a VVIP rated pilot with 6500 flying hours from Fixed & Rotary wing aircraft to his credit.

His demonstrated dedication and bravery in the battle against terrorism were awarded with Rana Wickrama Padakkama (RWP) and 3 Rana Sura Padakkama (RSP), two of the most recognized Decorations offered to an Officer in Sri Lanka along with many campaign medals as a recognition of his Contribution towards the defence of the motherland.

In line with his scholarly interests and the vivid experiences, presently AVM PDKT Jayasinghe is assigned with the sole responsibility of all SLAF trainings as the Director Training of Sri Lanka Air Force.





Air Cdre HSS Thuyacontha

WWV, RWP and two Bars, RSP and Bar, USP, MSc (Def & Strat Stu), psc

Chairman Organizing Committee

Colombo Air Symposium 2017



Air Commodore Sampath Thuyacontha was born in Colombo in the Western Province on 26th November 1966 and received education from Thustran College Colombo. During the school days he was a talented rugby player and represented the schools rugby team in 1986 that won the School Rugby Colours of the year. He joined the Sri Lanka Air Force as an Officer Cadet in 1988 and after the successful completion of the training he was commissioned as a Pilot Officer in the General Duties Pilot Branch in 1990.

After the commissioning he was assigned duties in several flying squadrons including the No 4 VIP/VVIP Helicopter Squadron where he involved with VVIP movements conveying many head of states and foreign delegations. In 2001, he was posted to No 9 Attack Helicopter Squadron as a pilot. During his long tenure he has actively participated in almost all major operations as the Officer Commanding Operations in No 4 VIP/VVIP Helicopter Squadron and the No 9 Squadron in which he was appointed as the Commanding Officer later.

He has completed the Defence Service Command and the Staff Course among many other professional training programs including the Comprehensive Security Response to Terrorism Program in USA, the Flight Safety Course in Pakistan, and the Basic Staff Course in Pakistan, the Defence and the Strategic Studies Course in China. Further, he has participated in the NESAC Counter Terrorism Seminar in USA and the Acceptance of MI-24 Helicopter in Czech Republic, and International Flight Safety Seminar in Bangladesh.

After the active involvement in the humanitarian operation in 2009 he was appointed as the Defence Adviser to the High Commissioner in Islamabad, Pakistan. Recognising his management and leadership skills the SLAF appointed him as the Base Commander of the SLAF Base Anuradhapura in the year 2012 and in 2014 he was appointed as the Chief Instructor of the Defence Service Command and Staff College, Batalanda.

His shown gallantry and dedication to the service was awarded by Poorna Bhumi Medal, Long Service Medal, Riviresa Medal, North and East Operation Medal, Liberation of North and East Medals, 50th Anniversary Medal and the Videsha Sewa Padakkama.

Presently he is the Commandant of the SLAF Academy China Bay, the most prestigious training facility of the SLAF. He is married and blessed with two daughters.



Moderators' Profiles



Air Vice Marshal MDAP Payoe

RWP, RSP, USP, MSc (NSWC - Pak), ndc (Pak), psc

Base Commander

Sri Lanka Air Force Base - Katunayake



Born in Bandarawela in the Uva Province in 1967, AVM MDAP Payoe had his education from the St. Thomas College, Bandarawela. He joined the Sri Lanka Air Force as an Officer Cadet in the General Duties Pilot Branch in 1985. Having undergone his Basic Combat Training at SLAF Diyatalawa and Basic Flying Training at Air Force Academy China Bay, he proceeded to Pakistan for further flying training based on his meritorious achievements. Having graduated as a military flyer in Pakistan in 1988 he was commissioned in the rank of Pilot Officer and was initially posted to No. 4 Helicopter Squadron. Since then, in the capacity of an operational helicopter pilot, he took part in almost every major operation conducted during the terrorist conflict in the Island. Air Commodore Payoe, at the same time steadily achieved the professional milestones in his career and went onto captain a few type of rotor wing aircraft.

He was trained on Cessna 150 and Chipmunk in Sri Lanka and Mushak MFI 17 and T 37 aircraft in Pakistan. After returning to Sri Lanka he became qualified on BELL 206, BELL 212, BELL 412 and MI 24 helicopters. Thus far, he has logged 7200 flying hours to his credit after having engaged in VIP, VVIP, combat and search & rescue missions. He commanded No. 7 Squadron and No. 9 Attack Helicopter Squadron at SLAF Base Hingurakgoda before being appointed as the Commanding Officer of SLAF Katukurunda in 2004. From end of 2005 to 2008 he commanded No 4 VVIP squadron at SLAF Base Katunayake. After completion of the staff course he was appointed to the office of Base Commander of SLAF Base Vavuniya followed by that of the Chief Instructor Air Wing DSCSC Sapugaskanda. Air Commodore Payoe attained a notable feat in his career when he was entrusted with the prestigious appointment of the Sri Lankan Defence Attaché to the Russia Federation in 2010. Having served a successful stint in Moscow Russia, he was again assigned to the DSCSC as the Chief Instructor of the Air Wing from 01 August 2012 followed by that of Base Commander Sri Lanka Air Force Base Vavuniya for the second time.

He has followed a number of overseas training courses and a few among many are; Junior Command and Staff Course in India, Flight Safety Course in Pakistan, Higher Defence Orientation Course in India, Aircraft Accident & Investigation Course in Pakistan and Search & Rescue Administration Course in Singapore. He has attended a number of conferences and combined exercises in Japan, Thailand, Russia, Alaska and Guam representing the SLAF. He is a proud product of Defence Services Command & Staff College Sapugaskanda, Sri Lanka and graduate of the National Defence University, Islamabad, Pakistan in National Security and War Course. For his bravery he has been awarded with the Rana Wickrama Padakkama and Rana Sura Paddakkama.

Presently, he is commanding the Sri Lanka Air Force Base Katunayake as the Base Commander which has more than 6500 men in the posted strength. In addition to that he is holding the appointment as the Overall Officer Commanding Air Defence and he is the Chairman of Sri Lanka Air Force Athletic Association. He is married and blessed with 2 kids.



Group Captain Frazer Nicholson MA
Royal Air Force



Frazer Nicholson joined the RAF in 1988 after a University Cadetship reading Physiology. After gaining his wings on the T-38 at the Euro NATO Joint Jet Pilot Training programme in Sheppard Air Force Base in Texas, he undertook flying tours at RAF Odiham and Benson on the Puma. Promoted to Squadron Leader in 1999, he was appointed Flight Commander on No 72 Squadron, RAF Aldergrove. The Squadron operated in Northern Ireland under Op BANNER. In 2001, he undertook a staff appointment within Headquarters Multi National Division Central (Airmobile), Monchengladbach, Germany as Staff Officer Air Plans. Next, he moved to the Joint Force Air Component Headquarters in A3 Plans and deployed on Operation TELIC as one of the 2 UK Air Tasking Order co-ordinating officers.

Promoted to Wing Commander, he completed the Advanced Command and Staff Course in 2004 and was posted to Headquarters Allied Rapid Reaction Corps in Germany as Staff Officer Air Plans. When they deployed as Headquarters International Security Assistance Force (ISAF) in 2006/7, he served as the HQ ISAF Liaison Officer to Combined Joint Task Force 76 at Bagram Air Base. A subsequent tour as Officer Commanding Operations at RAF Akrotiri in Cyprus followed. He then undertook a tour as Staff Officer Strategic Policy & Concepts in NATO Headquarters, Brussels. Selected for command in 2010, his next post was Force Commander of the UK's Search and Rescue Force at RAF Valley. In 2013 he deployed to Afghanistan as Commander Task Force Jaguar, with the responsibility for the employment of UK aviation in support of Regional Command South West and control of UK Special Forces Aviation based in Kandahar. Following this deployment, he was selected to help set up NATO's Deployable Air Command and Control Centre at PoggioRenatico, Italy as Head of the Combat Plans Division. From Italy, he moved to India to undertake the Indian National Defence College before returning there to take up post as Naval and Air Adviser and Non Resident Defence Adviser for Sri Lanka.

He is married to Joanne and they have three grown children aged 19,18 and 16. He spends his spare time cycling and skiing, and is allegedly to a golfer.



Captain Jason Sears
Royal Australian Navy
Defence Advisor to SL
High Commission of Australia



Captain Jason Sears RAN born in Kempsey and educated in Tamworth, NSW, Captain Jason Sears, RAN joined the Navy in 1986 as part of the first entry into the Australian Defence Force Academy. He graduated in 1988 and was awarded an Honours Degree and The University Medal in History in 1989. Following his specialist supply training in 1990, he joined HMAS Torrens and then HMAS Adelaide (II) as Deputy Supply Officer. From 1992-94 CAPT Sears served as Research Officer to the Chief of Navy in Canberra before undertaking fulltime PhD studies at University of NSW. He was awarded his Doctorate in History in 1998.

From 1997-99 CAPT Sears was the Materiel Support Manager at HMAS Cairns before joining the newly built Anzac Class frigate, HMAS Arunta, in Victoria as Supply Officer. He home-ported the ship to WA and participated in RIMPAC exercises off Hawaii in 2000 and a North-East Asian deployment to commemorate the 50th Anniversary of the Korean War in 2001. In October 2001 CAPT Sears was posted to the Defence Materiel Organisation where he worked as Sustainment Manager for the ANZAC frigates and participated in the development of alliance contracts with Tenix and SAAB Systems to support the ships. In November 2003 CAPT Sears and his family moved to Washington DC, USA, where he served on the Naval Attaché staff as Staff Officer Supply and Training.

CAPT Sears returned to Australia in October 2005 to take up the position of Sustainment Manager at the Mine Warfare and Clearance Diving program office based at HMAS Waterhen. He was responsible for the logistic support of the Navy's clearance diving teams, hyperbaric facilities, six Mine Hunter Coastal (MHC) vessels and two Minesweeping vessels. In 2009 CAPT Sears returned to sea as Supply Officer of the amphibious ship, HMAS Kanimbla, which deployed six times in the year, the final deployment being in support of Operation PADANG ASSIST to provide disaster relief to earthquake victims in Sumatra.

From December 2009 until January 2012, CAPT Sears commanded the Navy's centre of excellence for mine warfare, HMAS Waterhen. In 2012 he joined the Australian Fleet Sea Training Group as the Fleet Supply Officer.

CAPT Sears was promoted to CAPT on 1 January 2013 and posted as Director Strategic Logistic Development in the Joint Logistic Command in Canberra. He served in that role for ten months before an appointment as Director International Logistics in October 2013. In this role he was also Chair of the 18 nation United Nations working group that produced a Military Unit Manual for Logistics. CAPT Sears took up his appointments as Australia's first resident Defence Advisor to Sri Lanka on 19 January 2015 and inaugural Defence Advisor to Bangladesh on 25 March 2015.

CAPT Sears is married to Sonali, a lawyer, and they have two young boys, Alexander and William. His interests include football, swimming, tennis and gardening.



Colonel Gertsch Christ
Swiss Defence Attaché
in India, Singapore, Sri Lanka and Thailand
with Residence in New Delhi



Colonel General Staff Gertsch Christ was born on 16 April 1964 in Switzerland. He has obtained the High School Teacher (phil-nat) from the University of Berne. Prior to his military service he started his career as a high school teacher at Training and Consulting Center in Zollikofen.

His expertise in German, French, English and Italian languages paved the way to his success in the diplomatic career. In 1996 he has joined UN Military and was a UN Military Observer in former Yugoslavia UNTAES (United Nations Transitional Administrative for Eastern Slavonia). In 1997 he worked as a UN Military Observer in the Middle East UNTSO (United Nations Truce Supervisory Organization, Observer Group Golan and Lebanon).

Later he was appointed as a Company Commander in Bosnia –Herzegovina, SHQSU (Swiss Headquarters Support Unit). In 1999 he was appointed as Deputy Head of Division and Head of Sector in the division for Peace Keeping Operations, Directorate for Peace Support and Security Cooperation in the General Staff Berne. In the Year 2002 he has become the Deputy Head Chief of Staff of the Delegation in Korea (Neutral Nations Supervisory Commission). For nearly an year he served as the DefenceAttache’ Trainee Berne and Geneva. In 2004 he was appointed as the Defence Attache’ to Beijing. In 2009 he became the Head of Defence Attache’ Operations / International Relations Defence (IRD) in the Armed Forces Staff, Berne.Later he has held the poission of Head of Training Evaluation and Development Department at Kofi Annan International Peacekeeping Training Center (KAIPTC) Ghana.

Presently, he is serving as the Swiss Defence Attaché to India, Singapore, Sri Lanka and Thailand based in New Delhi.



Dinusha Panditaratne
Executive Director
Lakshman Kadirgamar Institute
Sri Lanka



Dinusha Panditaratne has been Executive Director of LKI since August 2015.

Dr. Panditaratne received her initial degree in law with first class honours from the University of Oxford, where she was a Markby Scholar at Balliol College and won the University Prize for first place in Administrative Law. She received her master's and doctorate from Yale Law School, where her doctoral thesis focused on international human rights law.

Dr. Panditaratne serves on the Executive Committee of the Centre for Rights and Justice in Hong Kong, and on the International Advisory Board of the Asian University for Women in Bangladesh. She is also a member of the Asia-Pacific Leadership Network (APLN) for Nuclear Non-Proliferation and Disarmament.

Prior to her appointment at LKI, Dr. Panditaratne was an Assistant Professor at the Faculty of Law at the Chinese University of Hong Kong, and a Visiting Fellow at the University of Hong Kong. Dr. Panditaratne is an attorney admitted to practice in the State of New York and previously worked at Milbank, Tweed, Hadley & McCloy LLP, an international law firm on Wall Street.



Asanga Abeyagoonasekera
Director General
Institute of National Security Studies Sri Lanka
Ministry of Defense



Asanga Abeyagoonasekera is the Director General of the Institute of National Security Studies Sri Lanka (INSSSL) operating under Ministry of Defence. He is also visiting lecturer in International Political Economy for University of London (Royal Institute) and teaches International Security at the University of Colombo. Asanga is a columnist for IPCS, New Delhi and author who contributes articles on geopolitics and regional security. He has been recognized as a Young Global Leader (YGL) for the World Economic Forum.

In 2015 he published a book “Towards a Better World Order” focusing on geopolitics of the region and the importance of preserving Sri Lanka’s democratic institutions. In 2016 he was invited to contribute a chapter for the publication, “The Modi Doctrine: Foreign Policy of India”. He has presented papers in many Foreign Policy think tanks and Universities including Jesus College at University of Cambridge. He has delivered lectures on geopolitics of the Indian Ocean, regional security, youth radicalization, peace and reconciliation, strengthening democracy and fighting economic crime.

Asanga has 12 years of experience in the government administration sector, serving as the Chairman of several government institutions. He was the Executive Director of the LakshmanKadiragamar Institute for International Relations and Strategic Studies from 2012-2015. At the same time he was the Director General of Bandaranaike International Diplomatic Training Institute.

He is an Alumnus of the US State Department International Visitors Leadership Program (IVLP), National Defense University in Washington D.C. and a Senior Fellow at APCSS Hawaii. Asanga was educated at Harvard Kennedy School, Jackson Institute for Global Affairs at Yale University, ECU Perth (Western Australia), Lee Kuan Yew School of Public Policy (Singapore) and University of Oxford.

Asanga resides in Colombo with his wife Kumudu and two sons.



COLOMBO AIR SYMPOSIUM 2017 RESEARCH SUBMISSIONS

Every year the Colombo Air Symposium invites research papers from a wide audience that represent military expertise, academic excellence, diplomatic experience and the technical mastery of the global, regional and the national level.

This year's theme 'Air Power in Addressing Asymmetric Threats' has invoked the intellectual interests of many researchers from the national and international backgrounds related to the fields of defence and security.

The preliminary evaluations have short listed 40 outstanding research papers contributed by the following authors and the final round of evaluations has selected 12 papers to be presented at the Colombo Air Symposium 2017.

	<u>Topic</u>	<u>Name</u>	<u>Institute</u>
01	Helicopter Operations in Support of Ground Combat in an Asymmetric Context	AVM MDAP Payoe	SLAF
02	The Readiness Status of SLAF in Countering Foreseeable Asymmetric Threats	Air Cdre DK Wanigasooriya	SLAF
03	Application of Air Power in Addressing Asymmetric Threats: Impacts of Asymmetric Threats on Air Bases and Employment of Air Power	Air Cdre AJ Amarasinghe	SLAF
04	A Perspective of Applications of UAV's in Asymmetric Threats	Gp Capt BAMP Balasooriya	SLAF
05	Quality Management System" As an Essential Element in Air Power to Counter Asymmetries Threats.	Sqn Ldr NS Dikkumburage	SLAF
06	A Study on Employment of Drones to Counter Asymmetric Threats in Sri Lanka	Sqn Ldr D Liyanage Sqn Ldr EMTD De Seram Sqn Ldr WKDCE Adikaram	SLAF
07	Mechanism for Integration and Effective Utilization of Air and Naval Air Defence Capabilities to Deal with Non- Traditional Threats in Indian Ocean Region	Sqn Ldr RMSN Ranasinghe	SLAF
08	Future Development of SLAF Helicopters to Counter Asymmetric Threats	Sqn Ldr VRS Vidanapathirana Flt Lt DDBIM Silva Flt Lt RJM Goonethilake	SLAF
09	Challenges for Helicopters in Asymmetric Warfare and the Way Forward	Gp Capt NHDN Dias	SLAF
10	Use of Airborne IR Platforms in Countering Asymmetric Threats Against High Value Targets	Sqn Ldr MDNP Amarajeewa	SLAF
11	A Study on Employment of Multirole Helicopter to Counter the Asymmetric Threats in Sri Lanka.	Sqn Ldr SAASN Siyabalapitiya	SLAF



12	A Guardian for an Island Nation in Irregular Warfare	Wg Cdr EDA Jayasundara	SLAF
13	Positioning of Mobile Observation Posts (MOPs) in Strategic High Grounds Around the Air Bases for Addressing Asymmetric Threats	Wg Cdr KHMSS Bandara	SLAF
14	Applications of Air power in Encountering Asymmetric Threats to Freedom of Navigation in Indian Ocean Maritime Domain	Sqn Ldr KAIA Kaluthanthriarachchi	SLAF
15	Employment of Armed Helicopters in Maritime Reconnaissance	Sqn Ldr DI Wijethilaka Sqn Ldr A Fernandopulle Flt Lt RMHV Rathnayaka	SLAF
16	Challenges in Employing Air Power for HADR: Regional Context	Wg Cdr JMDRAP Jayamaha Wg Cdr KHDP Kasagala Sqn Ldr RSTA Fernando Sqn Ldr PAC Krishan Sqn Ldr RRPWR Thilakarathne Flt Lt WMMC Weerakoon Flt Lt RAGP Ranasinghe Fg Off AKCP Samaranyale	SLAF
17	Modernization of SLADF to Counter Asymmetric Threat	Wg Cdr JMDRAP Jayamaha Sqn Ldr VGP Mahanama Sqn Ldr HMM Samarakoon Sqn Ldr MPKT Kumara Flt Lt RMMS Fonseka Flt Lt YBWDMCV Yatawara Flt Lt R Jayampathi Fg Off HAH Jeewantha	SLAF
18	Enhancement of Air Reconnaissance and Surveillance Operations Combined with Regional Power to Counter Asymmetric Threats in the IOR	Sqn Ldr PDPP Dayananda Sqn Ldr BRNSM Medagama Flt Lt SAIN Subasinghe	SLAF
19	Asymmetric Air Threats- Sri Lanka's Experience in Combating Insurgent Air Power	Wg Cdr SD Jayaweera Sqn Ldr EMUS Bandara	SLAF
20	Air Defence, A Guardian for an Island Nation in Asymmetric Threats (Case Study on Sri Lanka)	Wg Cdr ECA Jayasundara	SLAF
21	Mechanism for Integration and Effective Utilization of Air and Naval Air Defence Capabilities to Deal with Non-Traditional Threats in Indian Ocean Region	Sqn Ldr RMSN Ranasinghe	SLAF
22	Enhancement of Air Reconnaissance and Surveillance Operations Combined with Regional Powers to Counter Asymmetric Threats in the Indian Ocean Region	Sqn Ldr TME Mutaliph Sqn Ldr BRNSM Medagama	SLAF



23	Potential Applications of Emerging Technologies in Airpower to Address Asymmetric Threats	Ms.K.A.D.D Kuruppu	KDU
24	Third Eye up Above Your Head: A Legal Perspective of Regulating Unmanned Aerial Vehicles Past, Present and Future	Ms.K.D. Liyanage	BIDTI
25	Application of Air Power in Addressing Asymmetric Threats	Ms. L. Thilini Chathurika Goonasekara	BIDTI
26	Application of Air Power in Addressing Asymmetric Threats: Impacts of Asymmetric Threats on Air Bases and Employment of Air Power	Air Cdre AJ Amerasinghe	SLAF
27	How can the SLAF apply lessons from the Sri Lankan Civil War to meet its current needs: A Japanese perspective	Dr. Satoru Nagao	Japan
28	The Use of Unmanned Aerial Systems as an Asymmetric Threat: Challenges Facing the Sri Lankan Air Force in Countering a Possible Evolving National Security Concern	Mr. Asiri Fernando	SLAF

Institutes

SLAF	- Sri Lanka Air Force
INSS-SL	- Institute of National Security Studies of Sri Lanka
KDU	- Kotelawela Defence University
BIDTI	- Bandaranaike International Diplomatic Training Institute
BCIS	- Bandaranaike Centre for International Studies



Research Abstracts & Authors



Helicopter Task Force to Address Future Asymmetric Threats

By Group Captain VB Edirisinghe, Wing Commander PAV Samantha,
Wing Commander KMSPB Kulathunga

Abstract

A decisive breakthrough in gaining combat initiative towards own forces, a mechanism is essential through which the dependency on ground lines of communication could be nullified. Spreading of impact covering the total depth, width and breadth of the modern battlefield with only a minute regard to terrain barriers could certainly be the cutting edge on which the victory swings. As per the joint military strategy of the United States of America, “Asymmetric warfare is something done to military forces to undermine their conventional strength”. Further, it is the exploitation of weakness of the adversary using methods that differ from the expected mode of operations.

In this context, solving the dilemma of expending the power of domination over an invisible enemy, the probability of utilizing Heliborne Task Force (HTF) further to deployment of critical engagement ability of elite Special Forces becomes vital.

The author of this paper accesses to experienced pilots and infantry commanders who have been conducting operations of similar nature for last few decades during the insurgency in Sri Lanka. However an in-depth analysis on all data gathered to this respect, through resource personnel, theorists, and questionnaires would shapeup the finding in solving the problem statement. “Probability of utilizing Helicopter Task Force in support of addressing asymmetric threats”, would be answered in the light of characteristics of helicopters vis, speed, flexibility and fundamentals of special heliborne operations vis, deliberative, precisely planned and aggressive execution.

The outcome of the paper, projected as the recommendations and the conclusion will greatly influence setting the direction towards a joint operational strategy in conducting heliborne operations with the involvement of highly skilled special group elements and sophisticated Air arm, exclusively helicopters in addressing all future encounters which are of asymmetric in nature.

Key words: Helicopter Task Force, Special Forces, Heliborne Operations



Group Captain VB Edirisinghe

WWV, RWP, RSP & 3 Bars, psc, qhi

Base Commander

SLAF Base Hingurakgoda



Born in the central province of Sri Lanka in the year 1970, Group Captain VB Edirisinghe has had his education initially at St Paul's College and later at St Sylvester's College, Kandy. He joined the Sri Lanka Air Force as an Officer Cadet in the year 1991 and was commissioned as a Pilot Officer in the General Duties Pilot branch in 1993. He completed his flying training on the SF 260 warrior and was posted to the transport wing for fixed wing advance training. Due to lack of pilots in the rotary wing, he was posted to the rotary wing and completed his training on the Bell 206/212/412 in 1994. He was operationally cleared to fly helicopters and was posted to the Bell 212 utility helicopter squadron for flying duties. He performed well and earned his captaincy on type.

He was selected to undergo instructional training and became a qualified helicopter instructor in the year 1998. He was appointed as the squadron instructor and was responsible for the training of squadron attack pilots. He is an A2 rated helicopter instructor as of now from the central flying school RAF and has over 2500hrs on helicopter instructional duties. He has accumulated a total of 6800 hrs on helicopters and is an Instrument rating examiner in the helicopter stream. He is qualified in NVG operations and is an instructor in NVG flying. He has been awarded with several bravery medals for the gallant service rendered. He has been a part of the acceptance team to Russia and Ukraine and has followed training in Bangladesh, India, Singapore and USA.

He was posted to the VIP squadron in 2003 and was involved in flying dignitaries and the country's head of state rated as a VVIP pilot, flying the Bell 412/412EP. Consequently he was posted again to the Bell 212 squadron as the Officer Commanding Operations and as the senior instructor. There on he was posted to the No 6 helicopter squadron flying the Mi 17 helicopters as the Commanding Officer in June 2007.

He followed the Air Command and Staff College AY 10 course in 2009 – 2010 in the USA. He was also appointed as the defence attaché to the Embassy of Sri Lanka in Pakistan in 2011. He has commanded the Sri Lanka Air Force Base Anuradhapura as the Base Commander and presently commands the Sri Lanka Air Force Base at Hingurakgoda.



Wing Commander PAV Samantha

WWV, RSP, MSc (Def & Strat Stu), psc

Commanding Officer - No 07 Sqn



Wing Commander Vishwa Samantha was born in the Southern Province of Sri Lanka in 1974 and had his primary education from Dharmashoka College Ambalangoda. He joined the Sri Lanka Air Force as an Officer Cadet in 1996 and later he was commissioned as a Pilot Officer in 1997. During his training period he has completed the Basic Combat Training, Basic Flying Training, and Advanced Flying Training successfully.

He served in No 7 Helicopter Squadron, No 6 Helicopter Squadron and No 4 Helicopter Squadron. He is qualified in SF 260 warrior, Bell 206 Jet Ranger, Bell 212, Bell 412, Bell 412 EP and MI 17 Aircraft in the Air Force inventory. He is a VVIP Rated pilot with more than 5500 flying hours who has flown heads of states and other dignitaries for a period of 6 years.

He has been selected to command, No 61 Helicopter Flight, A helicopter unit for UN Mission, No 6 Helicopter Squadron and presently holds the appointment as the Commanding Officer of No 7 Helicopter Squadron which undertakes Basic and Advance Helicopter training and other operational flying such as VIP transportation, Casualty evacuation, Medical evacuation, Aerial reconnaissance and relief operations. He has followed several overseas training courses and served the Air Force as a committed and dedicated officer.

He married to Sankalpana Samaraweera and is blessed with a son.

Wing Commander KMSPB Kulathunga

RWP, MSc (Def&Strat Stu), MSc (Strat Stu), fawc, Psc

Commandin Officer - No 09 Sqn



Wing Commander Senaka Kulathunga was born in Mawanalla, Sri Lanka in 1976 he had his primary education from Darmaraja College Kandy. He had joined the Sri Lanka Air Force as an Officer Cadet in 1996 and later he was commissioned as a Pilot Officer in the General Duties Pilot Branch in 1998. He has completed the Basic Combat Training at Combat Training School Diyathalawa. Subsequently he successfully completed Basic Flying Training at SLAF Unit Katukurunda and Posted to No 7 Helicopter Squadron SLAF Base Hingurakgoda for Helicopter conversion training.

After successful completion of helicopter conversion training he was operationally cleared for flying duties and has served in No 7 Helicopter Squadron, No 6 Helicopter Squadron, No 9 Attack Helicopter Squadron and No 4 Helicopter Squadron. He is qualified in Bell 206 Jet Ranger, Bell 212, Bell 412, Bell 412 EP MI 24, MI 35 and MI 17 Aircraft in the Air Force.

He is a VVIP Rated pilot with more than 3500 flying hours who has flown heads of states and other dignitaries for a period of 6 years and he is a ATPL (H) holder. He has been served as the Officer Commanding Operations at No 7 Helicopter Squadron and No 6 Helicopter Squadron. Presently he serves as the Acting Commanding Officer of No 9 Attack Helicopter Squadron in Hingurakgoda.

He has followed several overseas training courses. He is a brave and experienced Pilot who serves the Air Force as a committed and dedicated Officer.

He is married to Manjuma Weerasekara and is blessed with two daughters.



Allies and Partners: An Asymmetrical Advantage

Major General Eifert

Abstract

In addressing the theme of “Air Power in Addressing Asymmetric Threats”, PACAF ties the topic to the concept that strong alliances and partnerships provide an asymmetrical advantage that can be used to counter these asymmetric threats. Furthermore, it is through the multi-national enforcement of global commons and the rule of law that the Pacific nations can best limit the operating environment in which asymmetric actors thrive.

- Assured access to the global commons has enabled the nations in the Pacific to enjoy decades of stability and prosperity
- Actors that destabilize this tranquility through actions such as aggression in disputed areas, proliferation of missile capability, and the pursuit of terrorism in SE Asia are working against a common desire for economic prosperity
- A unified reaction that underscores the importance of respecting international rules and norms will limit the operating environment which emboldens aggressive states and non-state actors



Major General Eifert
United States Air Force
Air National Guard Assistant to the Commander
Joint Base Pearl Harbor - Hickam, Hawaii



Major General James O. Eifert is the Air National Guard Assistant to the Commander, Pacific Air Forces, Joint Base Pearl Harbor-Hickam, Hawaii. Pacific Air Force is responsible for Air Force activities spread over half the globe in a command that supports 45,000 Airmen serving principally in Japan, Korea, Hawaii, Alaska and Guam.

General Eifert received his commission from the United States Air Force Academy in June 1982. Following undergraduate pilot training, he flew operational fighter tours in the F-4 and F-15 before joining the Hawaii Air National Guard in 1991.

After graduating from the prestigious United States Air Force Fighter Weapons School in December 1992, General Eifert led the first-ever Air National Guard F-15 combat mission policing the Northern Iraq no-fly zone during Operation Provide Comfort. In 1995 he joined the 125th Fighter Wing as the first F-15 Chief, Weapons and Tactics. As the Operations Officer, General Eifert executed the Wing's inaugural F-15 deployment to a combat zone during Operation Northern Watch in 1998 followed by the first Air Expeditionary Force rainbow deployment during Operation Southern Watch in 2000. As Wing Commander, 125th Fighter Wing, he guided the 1,100 member organization during the continuing Operation Noble Eagle and Overseas Contingency Operations missions while simultaneously serving as the Air Dominance Weapons Systems Council Chairman working F-15/F-22 issues and concerns nationwide.

General Eifert served as the National Strategic Planning System Force Structure Committee Chairman responsible for advising the Deputy Director of the Air National Guard on roles and missions. He also routinely performed Deputy Combined Force Air Component Commander duty for the Commander Continental North American Aerospace Defense Command Region overseeing the conduct of full spectrum air and space operations over the continental U.S., Puerto Rico, and the Virgin Islands. Prior to his current assignment, Major General Eifert was the Assistant Adjutant General – Air and Commander, Florida Air National Guard.

His distinguished service is recognized and awarded by numerous decorations and medals including the Air Force Distinguished Service Medal, Legion of Merit, Meritorious Service Medal (with 3 Bronze Oak Leaf Clusters), Air Force Commendation Medal (with 2 Bronze Oak Leaf Clusters), Air Force Achievement Medal (with 2 Bronze Oak Leaf Clusters), Air Force Outstanding Unit Award (with Valor Device and Silver Oak Leaf Cluster)



Air Power in Asymmetric Warfare and its Relevance to Bangladesh

By Group Captain M Readad Hossain

Abstract

Since a decade after the first flight on December 17, 1903, aircraft were used extensively during the combat operations of World War-1. Whether acting as supported or supporting Force, airpower has contributed to nearly every conflict since the Wright Brother's pioneering powered flight. History reflects that innovation of air power occurred future threats. Though, this tactical/strategic balance is often difficult to achieve, yet in the present scenario probably airpower remains as the best option in countering asymmetric conflicts both within and between the states. Airpower provides unique capabilities in the areas of dominant maneuver and precision engagement that can be leveraged against any form of threat be it unconventional, irregular or any dimension of recently debated hybrid warfare. However, the success of airpower applied to modern-era irregular conflicts is yet to be evaluated.

As the paper discusses the roles and types of airpower that can be most effective in irregular warfare in the context of south Asia with special emphasis to Bangladesh, fight against terrorism will probably come to forefront. However, Bangladesh in the past has experienced unconventional threats in the Chittagong Hill tracts and also in different parts of the globe while being deployed for UN mission. The country is likely to face threat from one of the many dimensions of asymmetric warfare in future where interagency co-operation would also play an important role. While fighting the asymmetric threat, factor like "Casualty aversion mindset" becomes a major concern for the decision makers and there the role of airpower needs to be clearly defined. This paper will provide critical analysis of all related aspects of the research and suggest prescriptions for the role of airpower in countering asymmetric threat in the context of Bangladesh.

While fighting against insurgents in the hilly region of Chittagong Hill Tracts (CHT), use of airpower by Bangladesh Air Force had to be modified according to the terrain while flying very low for short distance and almost at three thousand feet for long distance targets. Transport aircraft were also employed for dropping the commandos and paratroopers in CHT. Across the globe, in support of UN mission Bangladesh being one of the few top troop contributing countries faced huge challenge in countering the rebels of different nature and of course in an unfriendly terrain condition. In most operation, in initial days, troops used to be deployed by rappelling. Even few modification of the airframe of helicopters was extensively used for CASEVAC and MEDEVAC missions. When the TCCs had to switch from Chap-6 to Chap-7 of UN mandate in Congo, a lot of modernization starting from intelligence gathering to new avionics and other equipment settings were done. We probably need to do a lot in terms of new tactics to minimize damage in countering terrorist attacks or other dimensions of asymmetric threat.



Group Captain M Readad Hossain
Officer Commanding, Administrative Wing
Bangladesh Air Force Base Birshreshto Matiur Rahman
Bangladesh Air Force



Group Captain Mohammad Readad Hossain grew up in Rajshahi, a northern district of Bangladesh prior to join as a flight cadet in Bangladesh Air Force in 1988. After graduating from Bangladesh Air Force Academy in Air Defence Branch, he was transferred to the operational radar squadron in July 1990. In the year 1992, he became a categorized controller and in 1994, he was selected for basic air defence course in Turkey. He obtained his Master's degree in defence studies from Defence Services Command and Staff College and M Phil Part-1 from National Defence College.

He was selected for Defence service command and staff course (DSCSC) in 2003 and graduated in 2004. In the same year, he was selected for UN mission in DR Congo to establish Flight Following cell under MONUSCO for the first time. He served in almost all the capacity in the intelligence branch in BAF and also as Grade-1 staff officer in Directorate General of Forces Intelligence (DGFI).

He joined in National Defence College to undergo Armed Forces War Course (AFWC) in 2012. In 2013, he joined as Private Secretary to the Chief of Air Staff. He was awarded with Chief of Air Staff's Commendation Certificate and Air Excellence Medal in 2015. In the same year he qualified as category A(expert) controller in the Air Defence Branch.

In November 2015, he was selected as Contingent Commander of Bangladesh Airfield Services Unit (BANASU) and under his command; the unit received the Force Commander's appreciation certificate. Presently he holds the appointment of Officer Commanding Administrative Wing in BAF base Birshreshto Matiur Rahman.

He is married and proud father of two sons and a daughter. His first son is a 4th term flight cadet in Bangladesh Air Force Academy and just flew his first solo mission in his flying career before a month ago.



Application of Air Power in Addressing Asymmetric Threats

By Air Commodore Ashok Shiragannavar

Abstract

Asymmetric warfare is a military situation in which two belligerents of unequal power or capacity of action, interact and take advantage of the strength and weaknesses of themselves and their enemies respectively. This interaction often involves strategies and tactics outside the bounds of conventional warfare threats. The threats may include Cyber, Chemical, Biological, Radiological or Nuclear related threats. These asymmetric threats have assumed a new and broader dimension, especially in the aftermath of the terrorist attacks of 9/11, and advent of ISIS. Such threats are closely associated with various forms of Fourth Generation Warfare, such as guerrilla warfare, covert operations, proxy war, insurgency, terrorism, counter-insurgency and counter-terrorism.

The primary role of air power in addressing asymmetric threats would be in support of the surface forces. It provides a wide range of effects from minimal, discrete, and precise effects to overwhelming power as required. Due to the dynamic nature of asymmetric threats, any of these effects may be required at any time. The main roles in which air power could be employed to mitigate asymmetric threats are: -

- Air Interdiction.
- Air Transport.
- Electronic Warfare.
- Punitive Strikes.
- Surveillance & Reconnaissance.
- Asymmetric Warfare Operations.
- Psychological Operations.
- Casualty Evacuation.
- Special Ops.

Asymmetric threats are an issue which all countries will have to deal with in the days to come. It is a fall out of struggle between ideologies and interests between the security forces and a sect of the people of a nation. It would not be fought in the sharp black and white regime of combat, but in the fuzzy obscurity wherein politics affect tactics and strategy. Addressing asymmetric threats is not time bound and has the potential to be waged indefinitely by the adversary.

The enemy utilizing asymmetric threats will be fighting an unconventional war and the methods of waging war could be diverse. Enemy is capable of operating and sustaining in rugged terrain and under harsh climates. The enemy's strategy could be to harass and if possible, annihilate the security forces. The operational tasks for the security forces in addressing asymmetric threats are to find the threat, isolate, capture and neutralize or destroy the threat at the earliest. It should always be borne in mind that the use of Air Power has all the potential to escalate the conflict in terms of intensity and costs. Military victories in addressing such threats do not necessarily bring strategic success without a clear integration of political and military objectives.

Air Power has an important role to play in addressing asymmetric threats, the only limiting factors being the Commander's imagination, innovativeness, boldness and audacity. Proper understanding of the conflict, good integration with other security components and meticulous planning are vital for achieving success. Finally, it is the political and military objectives that a nation wants to achieve which would dictate the use of air power in various roles in addressing such threats.



Air Commodore Ashok Shiragnavar
Air - 1 Easten Air Commander
Indian Air Force



Air Cmde Ashok Shiragnavar is a graduate of the National Defence Academy, Kharakvasla. He was commissioned as a fighter pilot in the Indian Air Force (IAF) in Jun 1986.

He has obtained his M Phil from the National Defence College, New Delhi and the post graduate from the Defence Service Staff College (DSSC), Wellington. He has been the Air Officer Commanding and the Chief Operations Officer of a frontline fighter base of the IAF. He was the Commanding Officer of the first Aerostat Unit of the IAF. He is a highly experienced fighter pilot with more than 3550 hours of accident free flying and has flown the Mig 21 fighter aircraft in the IAF. He is Qualified Flying Instructor and a Fighter Combat Leader.

He has tenanted the appointment of Principal Director Information and Electronic Warfare and Director, Personal Officers at the IAF HQ. Presently he is the Air -1 at the Eastern Air Command of the IAF.

He is a recipient of Chief of Air Staff Commendation, Air Officer Commanding –Chief Commendation and a three –star flight safety award.

Air Cmde A Shiragnavar is married to Mrs.Shubangi Shiragnavar and is blessed with two sons. He is a keen follower of sports. His other interests include travelling, reading and listening to Indian Music.



Cyber Domain in Support of Air Power in Countering Asymmetric Threats

By Air Commodore AS Vithana, Wing Commander A Hettiarachchi,

Abstract

Asymmetric threats have increased by making significant effect on the world and it is becoming one of the biggest challenges and concerns to national security of the countries around the world since recent years. It can be expressed as one of the devastating uncontrollable disasters faced by the world in today's context. Terrorism, Guerrilla warfare, Weapons of Mass Destruction and Sea Pirates are such threats which play a main role in this context. In this situation air power as a 3rd dimension force, provides unique capabilities in the areas of dominant manoeuvre and precision engagement that can effectively and efficiently influence the drive against such threats which are against national security.

Technology advancements in airpower and connected weapons such as cruise missiles, tactical aircraft (stealth) and precision weapons make the "weapon systems of choice" when air strikes are ordered against terrorist targets. Although advancements in technology have increased, the mission successfulness is depending on correct and accurate intelligence, surveillance and reconnaissance, central command and control, high availability of air assets and joint planning systems. Therefore achieving of information superiority is highly required for successfulness of any air operation, especially when countering the asymmetric threats by employment of air power. Thus, high level decision making pertaining to employment of airpower as well as military forces themselves are been significantly influenced by the sophisticated automated computerized systems which are operating within the cyber domain. Those systems will have an impact on decision makers "casualty aversion mind set" before such employment and will act as a force multiplier while giving significant support to air power in the process of eradication of asymmetric threats.

This paper will briefly discuss effective and efficient utilization of the cyber domain in support of air operations while operating as the 5th dimension of warfare. Based on that, it will be described under six handpicked applications of airpower by emphasizing how cyber domain supports such air power applications for achieving operational success against asymmetric threats. Finally it is concluded that even though the cyber domain is not directly included in the air taxonomy, it will act as a force multiplier throughout the air power taxonomy while offering significant operational success of any operations conducted by any Air Force.

Keywords: Cyber Warfare, Air Power, Asymmetric Threats.



Air Commodore AS Vithana

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Chief Information Technology Officer

AFHQ Colombo



Air Commodore Arosha Vithana was born in January 1968. He joined the Sri Lanka Air Force as an Officer Cadet on 17th May 1988 and was commissioned as a Pilot Officer in the Electronics Engineering Branch on 17th July 1990.

The officer has attended different professional courses and graduated from Senior Command and Staff College Beijing PRC. He holds a Master's degree in Defence and Strategic Studies from Kotelawala Defence University and Bachelor of Science degree in Information Systems from Manchester Metropolitan University of UK. At present he is reading for Master of Science in Information Security at the Asia e University (AeU) in Malaysia.

He is specialized in Information Technology and Cyber Security and has spearheaded several flagship IT projects such as setting up of the SLAF data network, Battle Management Command System, Intra mail System, organization wide automation and the Cyber Security Command Centre.

He has held various appointments in the Sri Lanka Air Force including Officer in-charge Telecommunications at E&TEW SLAF Rma, O I/C Software Development, Technical Coordinator at the Combat Training School SLAF Cby and Senior Information Technology Officer. Presently he is serving as Chief Information Technology Officer. Further, the Officer has been awarded 'Uttama Seva Padakkama' for the dedicated service rendered towards the country.

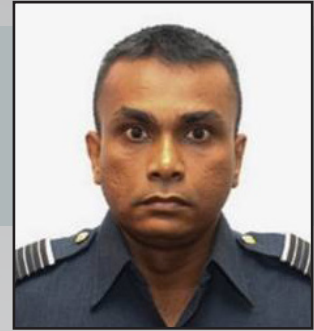


Wing Commander A Hettiarachchi

PG Dip (Def Mgt)

Senior Information Technology Officer

AFHQ Colombo



Wing Commander Asitha Hettiarachchi was born in October 1971, had his education from Isipathana College in Colombo. He joined the Sri Lanka Air Force as an Officer Cadet in 1994 and later he was commissioned as a Pilot Officer in the Logistics Branch in 1996.

After completion of the training he was posted to Air Force Base China Bay as the Officer in Charge Equipment section. In 1998 he was posted to Air Force Base Hingurkgoda. During the tenure he has performed as the Officer in Charge Tech Site in No 02 Supply and Maintenance Depot.

In 2000 he was posted to Information Technology Unit Air Force Head Quarters as a Software Development Officer. Due to his knowledge and experience of Information Technology, his branch was changed by SLAF from Logistics Branch to Electronic Engineering Branch together with the rapid expansion of Information Technology in SLAF. In 2002 he was appointed as Network Administration Officer of entire Air Force Data Network. Year 2012 he was appointed as the Commanding Officer of the Information Technology Wing at Air Force Base Ratmalana. Presently he is serving as a Senior Information Technology Officer at Information Technology Unit Air Force Head Quarters.

The Officer has attended different IT professional courses both local and overseas and he holds a Post Graduate Diploma in Defence Management from University of Kelaniya. At present he is reading for Executive Master of Science in Information Security at the Asia e University (AeU) in Malaysia.

Squadron Leader SC Wanigasinghe

MSc (GIS & RS), BSc (CS)

Senior Software Engineer

AFHQ Colombo



Squadron Leader Chamara Wanigasinghe was born in November 1984 and had his primary education from Rajapaksha Central in Weeraketiya. He received the BSc in Computer Science and the MSc in GIS and Remote Sensing from the University of Peradeniya.

He joined the Sri Lanka Air Force in 2009 and later he was commissioned as a Flight Lieutenant in the Electronic Engineering Branch in 2011. After the completion of his training he was posted to Information Technology Unit Sri Lanka Air Force Headquarters as an Officer in charge Software Development Team III. The officer has actively involved and worked as a team leader for number of automation projects which are operating in the Sri Lanka Air Force now.

His areas of research include RADAR integration systems, data fusion systems, Unmanned Aerial Systems and Open Source Intelligence Systems. One of his researches brought him the third place in National Inventors' Award ("Sahasak Nipayum") of Sri Lanka 2015 for Government Information Technology category.

Apart from that he is the Officer in charge Web Development Team and has won number of national awards in the field of web development while keeping Air Force web site as the best Sri Lankan website in 2015 and 2016.



The Role of Cyber Espionage as an Asymmetric for in Air Power

By Ms. Priyanka Moonesinghe, Mr. Ganidhu Weerasinha

Abstract

Cyber warfare is a new dimension of the concept of war, where the battleground is removed from the physical reality of war. This paper intends to look at how cyber espionage- as a modern concept of war by the means of manipulating data and information - is being utilized in a traditional sphere of air power in war. The argument put forth is that, having cyber espionage capabilities creates asymmetries of power, rendering the side possessing such capabilities more formidable than their disadvantaged opponents.

The structure of this paper will be as follows. First, we will look at the definition of cyber espionage, i.e. is it state sponsored, industrial or non-state actor induced cyber espionage? This research paper will utilize cyber espionage in the context of state sponsored espionage. In this vein, we will examine how cyber espionage is a threat to Sri Lanka due to its geopolitical proximity to countries that practice this form of espionage.

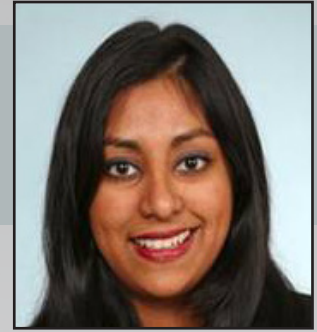
Thereafter, this research paper will illustrate why cyber espionage is an asymmetric threat to Sri Lanka's Air Force. The subfields of our examination will include the infancy of our cyber infrastructure in deterring espionage, the political manipulation stemming from acts of espionage in Sri Lanka, the most prevalent of which is the re-surfacing of terrorism in our nation.

Finally, this research paper aims at offering implications and solutions for the Sri Lankan Air Force to combat the asymmetric threat created by cyber espionage vulnerabilities. This will be in terms of information dependent weapons as well as the air fleet itself (drones, reconnaissance aircrafts, fighter jets, satellite and the ICT infrastructure they are built on) within the Sri Lankan Air Force.

Keywords – Cyber Espionage, Asymmetric Threats, Air Power



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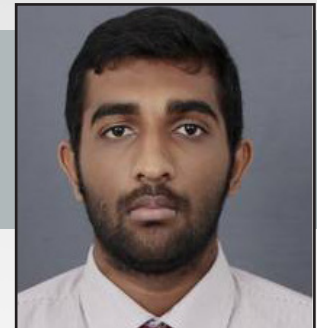


Ms. Moonesinghe is currently working as a Research Analyst for the premier Institute of National Security Studies Sri Lanka, established by His Excellency the President of Sri Lanka -Maithripala Sirisena, under the Ministry of Defence. Her area of research includes international and domestic terrorism and human security. Among the papers she has published, her recent work is on “A Critical Human Security based policy recommendation for current Sri Lankan security and practices”. At INSSSL she has authored several policy briefs, commentaries and columns with regional significance and interacted with renowned scholars.

She has previously worked at the Permanent Mission of Sri Lanka to the United Nations in New York as well as in the Operations Division at the United Nations Office for Drugs and Crime in Vienna, Austria. Moreover, her past work experience includes work at the Parliament of Sri Lanka and at a reputed Sri Lankan corporate law firm.

Ms. Moonesinghe’s educational background consists of a Master of Advanced International Studies (MAIS) from the prestigious Diplomatic Academy in Vienna, Austria established by Her Royal Highness Maria Theresa. Prior to that she has a Bachelor of Arts (with Honours) in Politics with International Studies from the University of Warwick, England.

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Author is a Research Assistant at the premier Institute of National Security Studies Sri Lanka, established by His Excellency the President of Sri Lanka -Maithripala Sirisena, under the Ministry of Defence. Previously, he worked for Practical Action Sri Lanka as a Coordinating Associate for the Disaster Risk Reduction and Climate Change Adaptation Programme (DRR/CCA). In this role, he worked on documentation of the “Hygo Framework for Action” and the implementation of the “Sendai Framework for Disaster Risk Reduction” in South Asia. Mr. Weerasinha also gave significant contributions to the publications of the “South Asia Disaster Report 2015 and 2016”.

Prior to this, Mr. Weerasinha worked at the United Nations Office at the Resettlement Authority in Sri Lanka. In this capacity, he worked on a corporate action plan for resettlement.

He holds a Bachelor of Science Degree (Hons) in International Relations from the University of London International Programmes, Royal Institute of Colombo. The author’s areas of interests are International Relations, International Security and post conflict studies.



Adoptive Engineering Support to Optimize Air Power in Addressing Asymmetric Threats

Air Cdre P Ranasinghe, Group Captain KGDN Jayasinghe,

Wing Commander WUS De Silva, Squadron Leader SN Kiriwella, Squadron Leader CCT Gamage

Abstract

Despite a considerable number of articles and research documents on the Humanitarian Operation which recognise the adaptive tactics used by the Sri Lankan Armed Forces in defeating the ruthless terrorist organization named the Liberation Tigers of Tamil Eelam (LTTE) and ending a blood shedding war that raged for nearly three decades and stagnated the Sri Lankan economic development; there are no known articles that focus on adaptive engineering support, rendered by the engineering staff in support of the air power utilized in countering the irregular threats from the terrorists during this period. Therefore, uncovering reasons that lead to believe that the adaptive engineering support was a cause for the optimization of air power which ultimately resulted in the Sri Lanka Air Force's (SLAF) ability in countering asymmetric threats from the LTTE during the Humanitarian Operation period gives significance to this study in recognizing the efforts by engineering officers and technicians behind curtains.

The study revealed that the adaptive engineering support by the SLAF with limited resources cannot be directly compared with adaptive engineering support of fully equipped maintenance support organizations of superior air forces. However, five attributes that relate to the SLAF maintenance model during the Humanitarian Operation period was identified and the same was used to develop independent variables for the research.

This study recollects the experience of the Commanding Officers (COs) of the engineering formations and the Officer Commanding Maintenance (OCM) of the flying formations of the SLAF through qualitative interview and quantitative data pertaining to airworthiness of aircraft, operational flying hours covered and latitudes granted during the Humanitarian Operation period. Special attention was given to engineering decisions made in maintaining the airworthiness of the aircraft fleet in support of operational readiness.

The comparison made with available maintenance models of superior Air Forces such as the United States Air Force (USAF) and the People's Liberation Army Air Force (PLA-AF) of China was used to relate the identified independent variables.

Analysis of the data and comparison with foreign air forces maintenance models have contributed in discussing the hypothesis of the research, which has proven that the adaptive engineering support had increased the operational readiness that ultimately resulted in optimizing air power to gain the ability to counter asymmetric threats from the LTTE.

Therefore, the outcome of the study has enabled to reveal the pre-requisites required for the development of a maintenance model for the SLAF in optimizing air power during asymmetric threats. Further development of a model and making adjustments to corresponding situations can help other small scale air forces struggling with countering asymmetric threats from terrorist organizations to successfully adopt and maintain their air power through adaptive engineering support of a similar nature.

Keywords: Air Power, Adaptive Engineering, Asymmetric Threats, Humanitarian Operation



Air Commodore P Ranasinghe

USP, MSc (Def Stu) in Mgt, MSc (Military Stu) psc

CO - Aircraft Engineering Wing

SLAF Base Katunayake



Air Commodore Prasanna Ranasinghe was born on 21st January 1968. He joined the Sri Lanka Air Force as an Officer Cadet on 17th May 1988 and was commissioned as a Pilot Officer in the Technical Engineering Branch on 10th September 1991.

The Officer holds the Master of Science degree (Def Stu) in Management and the Master of Science degree in Military Studies from Kotelawala Defence University. The Officer is a graduate of Defence Services Staff College, Mirpoor, Bangladesh and at present is reading for Masters of Human Rights at University of Colombo.

He has over twenty six years of experience in both aircraft maintenance and general engineering fields. He has held various appointments in Sri Lanka Air Force including Officer Commanding Maintenance at No 04 VIP/VVIP Squadron and Officer Commanding Technical Services. Further, he has also held staff and command appointments such as Staff Officer Aeronautical Engineering I, Staff Officer General Engineering I and II, Command Armament Officer, Commanding Officer at Junior Command & Staff College China Bay, Commanding Officer Trade Training School Ekala and Commanding Officer General Engineering Wing Katunayake.

Presently he serves as the Commanding Officer of Aircraft Engineering Wing at Sri Lanka Air Force Base Katunayake.



Group Captain KGDN Jayasinghe

MSc (Def & Strat Stu), BSc (Def Mgt), psc

CO - SLAF Musium Ratmalana



Group Captain Nihal Jayasinghe was born on 07th July 1968. He joined the Sri Lanka Air Force as an Officer Cadet on 17th May 1988 and was commissioned as a Pilot Officer in the Technical Engineering Branch on 10th July 1990.

The Officer has attended different professional courses and graduated from Defence Services Command and Staff College Sri Lanka. He holds a Bachelor of Defence Management and a Master's degree in Defence and Strategic Studies from Kotelawala Defence University. At present he is reading for his PhD at the Kotelawala Defence University.

He is specialized in the maintenance of UAV systems and functioned as the Officer Commanding Maintenance (OCM) of both Super Scout and Searcher MK II UAV Systems for more than 10 years. He was instrumental in initiating the UAV Research and Development Project in the SLAF. Among the various appointments he held Officer Commanding Maintenance, Staff Officer I, II and III at the Directorate of Aeronautical Engineering, Staff Officer to the Commander, Chief Instructor at the Junior Command and Staff College are prominent. At present he is serving as the Commanding Officer of Air Force Museum, Command Publication Officer and Coordinator of the UAV Research and Development Project.

Wing Commander WUS De Silva

psc

OCM - No 02 Sqn

SLAF Base Katunayake



Wing Commander Udaya De Silva was born in July 1975. He joined the Sri Lanka Air Force as an Officer Cadet on 07th January 1997 and was commissioned as a Pilot Officer in the Technical Engineering Branch on 07th July 1998.

The officer has attended different professional courses and graduated from Defence Services Command and Staff College Sri Lanka. At present he is reading for Bachelor of Science degree in Defence Studies from Kotelawala Defence University.

He has held various appointments in the Sri Lanka Air Force including, Officer Commanding Aircraft Repair and Salvage Section (AR & SS) at the Aircraft Engineering Wing SLAF Base Katunayake and Chief Instructor Technical Training at the Sri Lanka Air Force Trade Training School, Ekala. Presently he is serving as the Officer Commanding Maintenance at No. 2 Heavy Transport Squadron, SLAF Base Katunayake.

Further, this Officer is a proud recipient of 'Golden Owl' from the Defence Services Command and Staff College Sri Lanka.



Squadron Leader SN Kiriwella

PG Dip (Def Mgt), BSc (Def Stu) Aero Eng



Squadron Leader Niroshan Kiriwella was born on 12th August 1979. He joined the Sri Lanka Air Force as an Officer Cadet on 09th August 1999 and commissioned as a Pilot Officer in the Technical Engineering Branch on 02nd January 2002.

The Officer has attended different professional courses and graduated from Sir John Kotelawala Defence University Sri Lanka. He holds a Post Graduate Diploma in Defence Management and Bachelor of Science degree (Defence Studies) in Aeronautical Engineering from Kotelawala Defence University. At present, he is following the Technical Staff Officers Course at Military Institute of Technology Pune India while reading for Master of Military Technology at University of Pune India. He is also reading for the Master of Science in Management at Kotelawala Defence University.

He has over fourteen years of aircraft maintenance experience in which ten years are in Bell Helicopter maintenance and the Bell Helicopter USA has recognized him for Bell maintenance and overhaul. As a member of No 07 Helicopter Squadron, he actively participated for the humanitarian operations in Sri Lanka. He has held various appointments in Sri Lanka Air Force including Officer Commanding Component Overhaul, Special Projects and Non Destructive Testing at Aircraft Engineering Wing, Deputy Officer Commanding Maintenance at No 04 VIP/VVIP and No 07 Helicopter Squadrons.

Further, the Officer is a proud recipient of the first in order of merit at the Junior Command and Staff College Sri Lanka Air Force and had been selected to follow military staff and engineering courses in India, Pakistan, Bangladesh and China.

Squadron Leader CCT Gamage

BSc (Aero Eng) USAFA, AMIE (SL)

OC - Propulsion System Engineering Section

AEW SLAF Base Katunayake



Squadron Leader Charith Gamage was born on 02nd April 1982. He joined the Sri Lanka Air Force as an Officer Cadet on 04th June 2003 and was commissioned as a Pilot Officer in the Technical Engineering Branch on 04th June 2005.

The Officer holds a Bachelor of Science degree in Aeronautical Engineering from the United States Air Force Academy, specializing in turbine engine designing. The officer is a graduate of Junior Command and Staff College and at present is reading for post graduate diploma in Defence Management at the Kotelawala Defence University.

He has over ten years of experience in aircraft maintenance mostly in the fixed wing category where he was an active service engineering Officer at No 05 Fighter Squadron during the Humanitarian Operations. He has held various technical appointments in Sri Lanka Air Force including Officer Commanding Maintenance at No 112 UAV Squadron, Officer Commanding Special Projects at Aircraft Engineering Wing and Officer I/C Command Reserve. Presently he is serving as the Officer Commanding Propulsion Systems Engineering Section and Officer I/C of Safety Equipment Section at Aircraft Engineering Wing.



Value of Small Air Forces

By Trevor Albertson, PhD

Abstract

Contemporary conventional wisdom in some of the Western world suggests the value of small air forces is decreasing as the capabilities of larger powers increases. History suggests otherwise—particularly within the context of Western history. Poland during the German invasion of 1939, Great Britain’s RAF during the “Battle of Britain,” and Sweden throughout the Cold War provide examples of how small air forces made a difference in their nations’ defense. These remarks provide an examination of how these three cases validated the value of small air forces in defending against larger foes. From the question of value follows a discussion of why such was the case. Finally, an analysis of how to achieve such an end in the modern context will be explored.



Trevor Albertson, PhD
Assistant Professor and Course Director (Air Power - 1)
Air Command and Staff College
US Air Force



Dr. Trevor Albertson is an Assistant Professor and Course Director (Airpower I) at the United States Air Force’s Air Command and Staff College. In his role as Course Director, he is responsible for the curriculum planning, design, delivery, and evaluation of the “Airpower I” core course, where he leads a team of six deputies and roughly 40 instructors. As a professor, Dr. Albertson teaches in the Department of Airpower. Among his recent offerings, courses include “Airpower I” and “Airpower II,” classes designed to acquaint students with the history and operations of air forces in a national and international context.

Dr. Albertson earned his PhD at the University of California, Merced, with a major field of the political-diplomatic history of the 20th century United States. Prior to his doctoral work, he earned a master of arts in international affairs at the Catholic University of America in Washington, DC. He graduated cum laude from Norwich University, the United States’ oldest military college, with a degree in history and was commissioned an officer in the United States Air Force.

Subsequent to his congressional staff service, Dr. Albertson was appointed by Governor Edmund “Jerry” Brown as Deputy Secretary for Veterans Services at the California Department of Veterans Affairs. In that role he was responsible for the planning for, delivery of, and examination of services for roughly five million veterans and their family members in the state of California. Following this, he worked for the United States Department of Defence as a civilian.

Dr. Albertson’s scholarly work has appeared in several academic, peer reviewed publications. He is in the final stages of completion of a book on General Curtis E. LeMay’s role as Commander of the United States Air Force’s Strategic Air Command from 1948 to 1957; it will be published with the Naval Institute Press in 2018.



Asymmetric Air Threats and Counter Measures; Special Emphasis on Drone Operations

By Air Commodore M.D.J. Wasage, Squadron Leader BMDA Beddewela

Abstract

Since its inception mankind, has endeavoured to develop more than anything else, the ability to destroy one another. The forms of warfare have evolved with time, in context and lethality, but the objective of defeating the opponent remains unchanged. However, today, the world is trying to come to terms with the newest form; Asymmetric Warfare.

Asymmetric air warfare varies from creating asymmetry in conventional air warfare through orchestrated imbalances in force levels, technologies of weapons and sensors etc. Acquiring these technologies by the enemy is now becoming a headache to the state actors. The adversaries often tend to use air since the use of air brings shocking results in the asymmetric warfare.

The study contents two parts. First is to identify asymmetric air threats and counter measures. Second part of the study is focussed on utilization of UAVs to counter asymmetric air threats.

During the first part of the study, asymmetric air threats from drones are identified under six categories, then newest trends of in aviation which challenge aviation security are discussed in length. As per the findings it was found that, as off now, a grand strategy or cumulative protection model is not presented to cope with developing UAV threats. Therefor the author assessed defence concepts and proposed a cumulative defence-in-depth model as used in actual Air Defence concept in order to counter asymmetric air threats, mainly focus on drone threat.

During the second part of the study, use of drones in countering asymmetric threats are discussed with overseas experiences and especially the ISTAR role of Sri Lanka Air Force (SLAF) UAVs in countering asymmetric air threat from the Liberation Tigers of Tamil Eelam (LTTE). In that SLAF UAVs contribution in detection, recognition, identification and location of asymmetric air threats of LTTE are discussed in length.

The study is primarily a qualitative analysis. Data collection of the study is based on, Sri Lanka Air Force experiences, UAV experiences of other countries, journal articles, news reports and other available literature on subject matter.

Finally the study propose recommendations required countering asymmetric air threats by utilizing proposed defence-in-depth model and also utilization of UAVs with centralized command as a pre-requisite to counter asymmetric air threats.

KEY WORDS: Asymmetric Air Threats, UAV, Defence-in-Depth, LTTE Air Threat, ISTAR



Air Commodore M.D.J. Wasage
USP, Msc (Def Stud) in Mgt, PGD (IR)
Senior Staff Officer
Directorate of Air Intelligence



Air Commodore Dilshan Wasage was born on 8th August 1967. He is a proud product of Dharmashoka College, Ambalangoda and joined the SLAF as an Officer Cadet of 18th intake of Officer Cadets on 6th July 1987. He was commissioned as a Pilot Officer on 11th March 1989 in Administrative Regiment Branch.

Later, Air Cdre Wasage was selected for pilot training and he has successfully completed his basic and advanced flying training at the IAF Flying Academy in India and was awarded his flying brevet. He subsequently served as a combat helicopter pilot flying Bell 206, 212 and 412 helicopters and acquired more than 1400 operational flying hours at the No.07 Helicopter Squadron.

Subsequently he switched gears to specialize in UAV operations and went on to commanded No. 111 and 112 UAV Squadrons in the SLAF, which pioneered the operation of UAVs in the South Asian Region. He has also introduced the C4ISR for the SLAF and designed the Battle Management Command Centre at the Air Force Head Quarters which played a major role during the humanitarian operation. He has done his masters in Defence studies in Management and several specialized training in USA, Israel, India, and also he has done both his basic and senior staff courses in Pakistan Air Force. He is an Israeli qualified UAV Internal pilot and mission command instructor. Also he has followed international intelligence application training in USAF and Advance security cooperation in USA. He also hold Post Graduate Diploma in International Relations. He is a member of UVS international and attended several international conferences as a speaker on the subject of Unmanned Air Surveillance for counter Insurgency.

Air Commodore Wasage is presently performing duties as the Senior Staff Officer at the D of AI .



Squadron Leader BMDA Beddewela

MSc (Def & Stat Stu), B Com (Def Stu), psc

Directing Staff

Defence Service Command and Staff Collage



Squadron Leader Dhanushka Beddewela was born in January 1979. He joined the Sri Lanka Air Force as an Officer Cadet on 11th October 1998 and was commissioned as a Pilot Officer in the Administrative Regiment Branch on 11th October 2000.

He is a qualified UAV (drone) pilot who has actively participated in the humanitarian operations in Sri Lanka. He has held various appointments in the Sri Lanka Air Force including Flight Commander Regiment Field Squadron, Officer Commanding Training at No.111 UAV Squadron, Officer In-charge Cadet Training at SLAF Academy and Directing Staff at Junior Command & Staff College. Presently he is serving as a Member of Directing Staff at Defence Services Command and Staff College.

The Officer has attended different professional courses and graduated from Defence Services Command and Staff College Sri Lanka. He holds a Master's degree in Defence and Strategic Studies from Kotelawala Defence University, Post Graduate Diploma in Defence Management from University of Kelaniya and Bachelor of Commerce degree in Defence Studies from Kotelawala Defence University. At present he is reading for Master of Business Administration in Human Resource Management at University of Colombo.

Further, this Officer is a proud recipient of 'Golden Owl' award for becoming first in order of merit at the Defence Services Command and Staff Course (psc) in Sri Lanka.



The Role of UAVs in Asymmetric Urban Conflicts

By Mr .Nilanthan Niruthan

Abstract

In the 21st Century, two new trends have emerged that will transform warfare dramatically the urbanization of mankind and rise of unmanned technology. The population of the planet is becoming so urban in the next three decades that the world will see three billion new city dwellers, almost all of them in the coastal cities of the developing world. It took from the beginning of human history to the middle of the 20th Century to get the entire world population from zero to three billion people. No generation has ever witnessed a change in global demographics on such an incredible scale. By 2050, the estimate is that 75% of the global population will be urban. The predominant form of war in the future will hence be urban warfare.

At the same time, warfare technology has undergone several revolutions, the most important of which is the rise of unmanned and autonomous technology. The fact that we can now exercise lethal force through a pilot-less vessel raises a number of legal and security concerns, but comes with tremendous opportunities as well.

The paper shall examine the ways in which these two trends will interact in asymmetric conflicts of the future. More specifically, it was assess the role that could be played by unmanned and autonomous vessels in exercising Air Power in an urban environment. It will look at the entire spectrum of ways in which State and Non-State Actors will leverage the unconventional nature of an urban battlefield with UAVs. More specifically, the paper will dissect the legal and tactical issues that States will have to be aware of to retain their present advantage.



Mr. Nilanthan Niruthan
Visiting Research Fellow
Bandaranaike Centre for International Studies
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Mr. Nilanthan Niruthan is a defence analyst, currently attached to the Bandaranaike Centre for International Studies as a Research Fellow. He has an LL.M in International Human Rights Law, specializing in warfare and the laws of war. He has written for security journals from small wars to the journal of Military Operations. He also contributes to the Diplomat, writing on Urban Terrorism and Hybrid Warfare.

As an editor, he has worked on both fiction and non-fiction on counterinsurgency. He has collaborated for the publication by the National Human Rights Commission of India and the Consumer Rights Commission of Karnataka.

He has worked with a variety of prominent Indian organizations such as FES to education institutions like SAIDS. In Colombo, he has previously worked as a Monitoring and Evaluation Officer for the UNDP, and has also worked closely with key institutions such as the Ministry of Justice Attorney General's Department and Judicial Service Commission which are in the justice sector during his tenure in the UN. He is also a visiting lecturer at the Bandaranaike Centre for International Studies and the Defence Services Command & Staff College. His research interest primarily revolves around emerging issues such as autonomous weapons, urban security, cyberspace and maritime piracy.



Role of Air Power in Counter Terrorism Operations and Force Protection

By Air Commodore Amir Rashid, TI (M)

Abstract

This presentation is focused on role of airpower in counter terrorism operations and force protection based on PAF experience in counter terrorism operations. Modern Air Forces were best suited for conduct of conventional warfare; however, they lacked the understanding of their capabilities and limitations with regards to the application in handling irregular warfare. However, we have learnt to deal with problem through the process of evaluation.

Pakistan, for the last two decades has been facing the challenge of terrorism by non state actors which are the forces of disorder, challenging the writ of state. These terrorists thrive on the religious exploitation by proliferating flawed ideology. The area of influence of the terrorists in Pakistan had grown to 12% of the total area of FATA, Dir and Sawat. To counter this, Govt of Pakistan chalked out the strategy of Deterrence, Dialogue and Development. At the start of the operations, major challenges for Pakistani armed forces in general and PAF in particular were the non-availability of requisite capability and lack of experience in irregular warfare. After identification, the requisite capabilities were acquired which proved rewarding with growing experience and time. From 2008 onwards, PAF extensively supported LEAs to limit the terrorists and re-establish the writ of the government, thus reducing the terrorists influence to only 3% of FATA area by 2009. With experience and application of lessons learnt, PAF entered in the ongoing operation RaadUIFassad and had been successful in supporting the sister forces and LAEs in totally diminishing the terrorist's hold in FATA.

Effective employment of a fighting force is central to achievement of politico-military aim of any conflict. Protection of such a force, therefore, is essential to ensure success of a mission and consequently achievement of the politico-military aim. Consequent to the participation of PAF in counter terrorism operations like other sister forces, PAF also became victim of terrorist attacks. Over the years, PAF has also invested heavily in terms of funding, dedicated human and material resource and infrastructure, to evolve, consolidate and strengthen the concept of force protection at all its bases and units.

To conclude Pakistan armed forces in general and PAF in particular has suffered serious losses in terms of material and men during counter terrorism operations. However with absolute resolve and correct analysis of capability deficiencies, PAF invested both in acquiring the requisite capability and applying the lessons learnt from the earlier operations thus achieving remarkable results helping sister forces and LAE's in eliminating the terrorists from the motherland and enhancing the own force protection.



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Air Commodore Amir Rashid is officiating as Deputy Inspector General Air Force at Air Headquarters, Peshawar.

Air Commodore Amir Rashid graduated in the Flying Branch from PAF Academy, Risalpur in December 1990. During his flying career, he has flown a number of aircraft including MFI-17, T-37, FT-5, Hawk, F-7P, Mirage, JF-17 and F-16 with more than 2500 flying hours. He is a qualified flying instructor and a graduate of Combat Commander's School, PAF. He had also been deputed to UAE Air force and Air Defence as a flying instructor on Hawk aircraft.

His operational assignments include command of a Fighter Squadron and a Fighter Wing of Pakistan Air Force. In his staff appointments, he served as Deputy Director, Director and Assistant Chief of the Air Staff at Air Headquarters, Islamabad. In his last assignment, he was looking after the physical security at PAF Bases and installations. Currently he is holding the appointment of Deputy Inspector General Air Force at Air Headquarters, Peshawar. He is a graduate of PAF Air War College, Faisal and National Defense University, Islamabad. For his meritorious services, he has been awarded Tamgha-e-Imtiaz (Military).

Air Commodore Amir is married and blessed with two sons and a daughter.



Application of Air Power Addressing Asymmetric Threats; Counter Terrorism Perspective

By Brigadier TJ Nanayakkara

Abstract

During the three decades of protracted conflict, Air Power played a vital role which covers Close Air Support (CAS), Aerial Reconnaissance (Air Recce), Air Strikes, Air Escorts, Air Lift Operations and Air Interdiction (AI) in support of ground troops. However, during the period, Air Force had a prompt expansion and undergone the rapid evaluation process in order to maintain its air supremacy over the Sri Lankan skies, while suppressing the hostile counter actions.

Nevertheless, terrorists were smart enough to take counter actions against the Sri Lanka Air Force (SLAF) starting from preliminary level anti-aircraft gun to advanced Surface to Air Missile (SAM) attacks and at the latter stage this was extended to use of Liberation Tigers of Tamil Eelam (LTTE) aircrafts and carrying out raids on strategic targets and launching attacks against Air Bases and International Airports which had a greater impact on country's economy and national security.

On the other hand, LTTE terrorists gained the support of the Tamil diaspora and its sympathizers where it met its financial and logistic needs to the fullest extent. This helped them to elevate from a basic guerilla fighting element to an organized military entity where capable enough to launch limited offensives against the military forces. This rapid development thrived to taking control over the Tamil community in the North and East. However, this situation led security forces to launch humanitarian operations to rescue those who under the clutches of LTTE. Throughout the brutal war, it was evident that SLAF played a vital role in supporting ground troops in vivid spectrum of operations.

In the analyzing and testing how the SLAF supported ground troops in counter terrorism action and finding out how effectively it influences in eradicating LTTE menace from the Sri Lankan soil is the research problem. The hypothesis is that "was the air support an essential element in achieving success in counter terrorism operations in Sri Lanka". The research is primarily a qualitative analysis, as it requires possible capabilities and limitations of SLAF and theoretical implication of its actions in support of ground troops. In addition, any shortcomings or lessons learnt are proposed as recommendations if any required focusing at the effective use of Air Power in the future.



Brigadier TJ Nanayakkara

RWP USP ndu

**Officiating General Officer Commanding
56 Division Vaunia SL Army**



Brigadier TJ Nanayakkara was born in Pelmadulla on 26th November 1964. Having completed his school education at Richmond College, Galle, he was enlisted to the SL Army on 05 August 1985 as an Officer Cadet. On completion of military training he was commissioned as a Second Lieutenant to the 1 Field Regiment Sri Lanka Engineers on 31st May 1986.

Brigadier TJ Nanayakkara first held the appointment as a Troop Commander and was deployed on Counter Terrorist Operations in the North and East of Sri Lanka. He has a long service experience in the field of Counter Terrorist Operations and Counter Insurgency Operations both as a Field Engineer as well as Field Commander. He has commanded two Field Engineer regiments from July 1999 to September 2000 and May 2005 to May 2007 in Boo-Oya, Wanni during the densest period of operations against the terrorists. He was appointed Officiating General Officer Commanding of 68 Division – Mullativu from September 2013 to July 2014, 54 Division – Mannar from September 2016 to January 2017 and 56 Division – Vavuniya from January 2017 to date.

He has held numerous Staff appointments from Grade II Staff Officer up to Brigadier General Staff at Security Forces Headquarters (Mullativu) and the post of Director Recruiting at Army Headquarters in year 2015. He has followed numerous local and foreign training courses including Young Officers Course – India in year 1991, Bomb Disposal Course – Pakistan in 1999, Mid Career Course – Pakistan in year 2000 and Unit Command Course – 2007 in Pakistan and the Master's degree from the prestigious National Defense University, People's Liberation Army (PLA), China for the National Security Administration along with the title of 'ndu'. Besides that he had attended number of military training courses, seminars and including Humanitarian Demining research and Development Workshop – USA in 2006 and Workshop on demining in March 2017 in Thailand.

For his bravery demonstrated in the face of the enemy during Counter Terrorist Operations he was awarded with RANAWICKRAMA GALLANTRY MEDAL for two consecutive times. He is further being awarded with eleven other Military and service medals.

He is married to Anusha Shiroshani Nanayakkara and blessed with a son and a daughter, namely Sakith (15 years) and Venuthi (10 Years).



ABBREVIATIONS

AFHQ	-	Air Force Headquarters
AFWC	-	Armed Forces War Course
APLN	-	Asia-Pacific Leadership Network
CHT	-	Chittagong Hill Tracts
DefMgt	-	Defence Management
DGFI	-	Directorate General of Forces Intelligence
DSC&SC	-	Defence Service Command and Staff College
GIS	-	Geographic Information System
HTF	-	Hellebore Task Force
IAF	-	Indian Air Force
INSSSL	-	The Institute of National Security Studies Sri Lanka
IRD	-	International Relations Defence
ISAF	-	International Security Assistance Force
IVLP	-	International Visitors Leadership Program
KAIPTC	-	Kofi Annan International Peacekeeping Training Center
KDU	-	Kotelawela Defence Academy
LKI	-	Lakshman Kadirgamar Institute
LTTE	-	Liberation Tigers for Tamil Eelam
MAIS	-	Master of Advanced International Studies
MHC	-	Mine Hunter Coastal
MOPs	-	Mobile Observation Posts
NDU	-	National Defence University
PAF	-	Pakistan Air Force
PAF	-	Pakistani Air Force
qhi	-	Qualified Helicopter Instructor
RAF	-	Royal Air Force
RAN	-	Royal Air Force Navy
RSP	-	Rana Sura Padakkama (Combat Excellence Medal)
RWP	-	Rana Wicrama Padakkama (Combat Gallantry Medal)
SHQSU	-	Swiss Headquarters Support Unit
UAV	-	Unmanned Aerial Vehicle
UNTAES	-	United Nation Transitional Administrative for Eastern Slavonia
UNTSO	-	United Nations Truce Supervisory Organization
USAF	-	United State Air Force
USP	-	The Uttama Sava Padakkama (Meritorious Service Medal)
WWV	-	Weera Wicrama Vibhushanaya (Heroic Gallantry Decoration)



GLOSSARY OF TERMS

Air Escorts - one or more persons, soldiers, vehicles, etc., accompanying another or others for protection, guidance, restraint, or as a mark of honour

Air Interdiction - also known as deep air support (DAS), is the use of preventive aircraft attacks against enemy targets, that are not an immediate threat, in order to delay, disrupt, or hinder later enemy engagement of friendly forces.

Air Lift Operations - An airlift is the organized delivery of supplies or personnel primarily via military transport aircraft

Air Strikes - an offensive operation carried out by attack aircraft. Air strikes are commonly delivered from aircraft such as fighters, bombers, ground attack aircraft, and attack helicopters.

Air taxonomy - a set of terms used by ICAO to categorize aircraft accidents and incidents and allow safety trend analysis on these categories

Armed revolts - an open armed uprising of certain social groups or classes against existing political power

Asymmetric - not identical on both sides of a central line; unsymmetrical; lacking symmetry

Asymmetric warfare - war between belligerents whose relative military power differs significantly, or whose strategy or tactics differ significantly. This is typically a war between a standing, professional army and an insurgency or resistance movement.

Autonomous technology - any kind of technology that can function without being told what to do by a person on Earth

Battle of Britain - a military campaign of the Second World War, in which the Royal Air Force (RAF) defended the United Kingdom (UK) against large-scale attacks by the German Air Force (Luftwaffe).

Biological threats - a bacterium, virus, protozoan, parasite, or fungus that can be used purposefully as a weapon in bioterrorism or biological warfare (BW)

Demographics - statistical data relating to the population and particular groups within it

Electronic Warfare - any action involving the use of the electromagnetic spectrum or directed energy to control the spectrum, attack of an enemy, or impede enemy assaults via the spectrum.

Guerrilla warfare - is a form of irregular warfare in which a small group of combatants, such as paramilitary personnel, armed civilians, or irregulars, use military tactics including ambushes, sabotage, raids, petty warfare, hit-and-run tactics, and mobility to fight a larger and less-mobile traditional military.

Heliborne Operations - an offensive operation in which combat forces and their equipment move out in the battlefield aboard air vehicles under the control of the ground force commander to engage in ground combat

Human trafficking - trade of humans, most commonly for the purpose of forced labour, sexual slavery, or commercial sexual exploitation for the trafficker or others.

Hybrid warfare - a military strategy that blends conventional warfare, irregular warfare and cyber warfare

Illegal cartels - Drug trafficking organizations, especially in South America, are often referred to as “drug cartels.” These organizations do meet the technical definition of being cartels. They are loosely affiliated groups who set rules among themselves to control the price and supply of a good, namely illegal drugs

Insurgency - an active revolt or uprising

Lethality-the capacity to cause death or serious harm or damage

Proxy war - a war instigated by a major power which does not itself become involved



Casualty Evacuation - also known as CASEVAC or by the callsign Dustoff or colloquially Dust Off, is a military term for the emergency patient evacuation of casualties from a combat zone. Casevac can be done by both ground and air. "DUSTOFF" is the callsign specific to U.S. Army Air Ambulance units.

Cold War - the Cold War was a state of geopolitical tension after World War II between powers in the Eastern Bloc and powers in the Western Bloc

Communal riots - a form of violence that is perpetrated across ethnic or communal lines, the violent parties feel solidarity for their respective groups, and victims are chosen based upon group membership.

Counter-terrorism - (also spelled counterterrorism) incorporates the practice, military tactics, techniques, and strategy that government, military, law enforcement, business, and intelligence agencies use to combat or prevent terrorism. Counter-terrorism strategies include attempts to counter financing of terrorism.

Cyber domain - Logic Aspects represent the information that is stored within the information systems; i.e. the meaning of the raw data that are flowing between or stored in systems in the cyber domain.

Cyber espionage - the use of computer networks to gain illicit access to confidential information, typically that held by a government or other organization.

Cyber warfare - any virtual conflict initiated as a politically motivated attack on an enemy's computer and information systems. Waged via the Internet, these attacks disable financial and organizational systems by stealing or altering classified data to undermine networks, websites and services.

Psychological Operations - (PSYOP) are planned operations to convey selected information and indicators to audiences to influence their emotions, motives, and objective reasoning, and ultimately the behavior of governments, organizations, groups, and individuals.

Punitive Strikes - A punitive strike is a military attack undertaken to punish a state or any group of persons

Radiological threats - radioactive material is dispersed by use of conventional explosives or perhaps other means

Special Ops (Operations) - military operations that are "special" or unconventional and carried out by dedicated Special Forces and other special operations forces units using unconventional methods and resources.

Surveillance - close observation, especially of a suspected spy or criminal

Reconnaissance - military observation of a region to locate an enemy or ascertain strategic features

Tactical aircraft - An attack aircraft, strike aircraft, or attack bomber, is a tactical military aircraft that has a primary role of carrying out airstrikes with greater precision than bombers

Unconventional - not based on or conforming to what is generally done or believed

Conventional - based on or in accordance with what is generally done or believed
synonyms: normal, standard, regular, ordinary, usual, traditional, typical, common

Urban warfare - combat conducted in urban areas such as towns and cities. Urban combat is very different from combat in the open at both the operational and tactical level. Complicating factors in urban warfare include the presence of civilians and the complexity of the urban terrain.



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