

SEMINAR PAPER

ON

AIRCRAFT ACQUISITION: A PARADIGM SHIFT FOR BANGLADESH AIR FORCE

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Roll: 118

Date: 13 September 2022

137th Advanced Course on Administration and Development



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Aircraft Acquisition: A Paradigm shift for Bangladesh Air Force

Abstract

Bangladesh Air Force (BAF) will meet the aggressor at the forefront in any conflict with any nation. BAF will use its aircraft, particularly fighter planes, to remove the threat. Our country's security will be at risk if the aircraft is unable to effectively fight the threat. The necessity for the future was underscored by the BAF aircraft's current status. And, as the geopolitical environment has changed, this has occurred. According to the current geopolitical situation, Bangladesh's neighbor Myanmar poses the greatest danger to the country because of the Rohingya crisis and maritime boundary disputes. BAF now uses aircraft from China, Russia, Italy, Germany, and the U.S.A. Which nation will help you in a time of need, though, is a concern because of the current geopolitical turmoil. The issue of effective supply chain management has also been brought up by the ongoing power projection conflict between the world's top three economies, the United States, China, and Russia. This research critically assessed BAF's current situation and the need for a paradigm change away from the current platforms. The qualitative analysis approach was used to conduct the investigation. This study took into account both primary and secondary data, with the primary data being gathered through key informant interviews (KII) and meetings with relevant field authorities. The secondary data was gathered by reviewing several books, papers, and other pertinent published sources. According to the report, the BAF's fighting prowess is based on planes made in China and Russia. Due to their geopolitical interests, it is also doubtful that the BAF will obtain backing from these countries in the event of a conflict with Myanmar. Furthermore, during any crisis involving the aforementioned nations, maintenance, and spare support will also be hindered. A paradigm shift may be necessary for the BAF's future aircraft procurement policy in light of the aforementioned.

Keywords: Geopolitics, Paradigm Shift, Geopolitical Ambition, Rohingya, Aircraft Maintenance, Overhaul.

1.0 Introduction

1.1 Background

The famous quote by Carl Von Clausewitz, "*War is the continuation of politics by other means,*" holds now just as it did in his day. Geopolitics is a concept like any other in that it has a history and geography. The term "geopolitics" has a lengthy and intriguing history, having been coined in 1899 by Swedish political scientist Rudolf Kjellen. The term's original definition was enlarged by Kjellen's work to encompass a wider interest in geography and politics. The definition and ideas of geopolitics develop along with historical periods and the world order (Tuathail, G 1998). By analyzing the connections between socioeconomic, creative, and political processes within

shifting geographical contexts, the new geopolitics can have an impact on military strategic considerations. (Cohen, SB 2018).

Currently, the geopolitical climate is continuously changing. Unpredictability has intensified as a result of China's economic growth, tension with the U.S.A, and Russia's invasion of Ukraine (Bruton 2021a, Mbah 2022b). China wants to completely control the South China Sea (Wood, JR 2021). Furthermore, China is very interested in Myanmar, particularly in the China-Myanmar economic corridor, which will help realize the aforementioned ambition (Chanda, J 2021). Russia invaded Ukraine on the other hand because it desired to join NATO, which started the give a reshape to global geopolitics (Ozili, PK 2022). The impacts of the Russian invasion including the performance of the hardware especially avionics are seriously affecting the global supply chain, which includes the delivery of weaponry.

Bangladesh Armed Forces are more reliant on foreign imports due to its lack of production capability. As per Stockholm International Peace Research Institute (SIPRI) fact sheet 2020, China accounts for 73% and Russia accounts for 16% of military hardware in Bangladesh. The rest comes from the U.S.A and other nations. The same fact sheet also showed that, between 2016 and 2020, India's arms trade with Russia declined by 53%, while commerce with France and Israel grew. In place of the aforementioned, the need for a change in the defense procurement plan is one that is pertinent to safeguard the nation's boundaries and interests.

1.2 Problem Statement

The immediate security threat to Bangladesh comes from Myanmar, which is its next-door neighbor. With the 2008 maritime dispute, Saint Martin's Island issue, and the 2017 Rohingya crisis, Myanmar poses a long-term threat that Bangladesh must work to thwart. To safeguard the boundary of the nation, Bangladesh Armed Forces have acquired a significant number of weapons from the suppliers of different countries due to its lack of production capability (Kumar, A 2021). At present, Bangladesh Air Force (BAF) operates three fleets of Chinese Chengdu F-7 series fighter planes, one fleet of K-8W Jet Trainer planes, and one fleet of L-410 Transport Trainer planes. And from Russia, BAF operates one fleet of MiG-29 Fighter aircraft, two fleets of Mi-17/171SH series Helicopters, one fleet of AN-32 transport aircraft, and one fleet of Yak-130 Advance Jet trainer aircraft (Wikipedia 2022). This means the main fighting force of BAF relies upon the manufacturer of these aircraft. The transport sector of BAF is mostly based

on the U.S.A-built C-130 aircraft. BAF also uses some European models like Italian-made AW-139 helicopters and Drones. Based on the current geopolitical situation, it is practically foreseeable which nations will help us in the event of an unwelcome confrontation with Myanmar. Therefore, it is time to reconsider the future aircraft procurement strategy. This study is being conducted to identify the current status, barriers, and problems in maintaining the current fleet of BAF in order to find out some ways by analyzing those problems which may contribute more to the national security of Bangladesh.

1.3 Objectives of the Research

This study aimed to examine the present status, and necessity of changing paradigm shift in the acquisition of BAF aircraft.

1.4 Research Questions

Considering the problem statement, the research questions were as follows:

1.4.1 What is the present status of BAF aircraft?

1.4.2 What is the necessity of a paradigm shift in the acquisition of BAF aircraft?

2.0 Review of Literature

The new geopolitics can influence military strategic considerations by examining the links between economical, creative, and political activities within altering geographical contexts (Flint, C & Taylor, PJ 2018). The country's geopolitical environment, defense policy, and strategy all influence the long-term expenditures for air defense procurement (Holcner, V & Drazen, S 2018). A thorough evaluation procedure and selection of suitable aircraft are necessary, especially since the acquisition of military combat aircraft demands very significant defense budget expenditures (Kirkpatrick, DL 2004). The combination between needs and restrictions must be handled to achieve optimal selection in the context of the economic and geopolitical problems involved with air defense procurement (Ardil, C 2021). Geopolitical tensions and patterns are weighing heavily on the thoughts of decision-makers in government and business, and this is especially true for technologies with strategic importance in global supply chains. A fundamental reevaluation of the benefits of lean, geographically dispersed supply chains is being fueled by the emergence of an ambitious and hegemonic China, a terrible epidemic, technological advancement, and recently the invasion of Ukraine by Russia (Shivakumar, et al. 2022).

The present supply chain and third-line maintenance of BAF aircraft are fully dependent on the originating countries (Moniruzzaman, ANM 2022). The aircraft BAF currently operates originated from China, Russia, the U.S.A, Italy, and Germany. China supplies more than 70% of the BAF's fighter aircraft, with the remaining 30% coming from Russia (SIPRI 2020). Other countries as mentioned above are mostly providing transport, helicopters, drones, and training aircraft.

The recent Rohingya issue and the demarcation of maritime boundaries issue have brought up tension between Bangladesh and Myanmar (Dsouza, L 2017). If the tension turns into a conflict, it is doubtful that Bangladesh would get enough assistance from its long-term military suppliers (Khan, MNM 2021). Mentionable that, the main supplier China has three main geopolitical interests in Myanmar: energy supply and security, connectivity to the Indian Ocean, and security of border areas and commerce. In order to offset China's expanding predominance in the Indian Ocean and its efforts to strengthen its influence in the Bay of Bengal, the US and its allies have a strategic interest in Myanmar. Moreover, engagement with Myanmar will allow the EU and America's big multinational companies in deriving benefits from the huge potential of mineral resources in Myanmar. Arms agreements, economic gain, and safeguarding the Chinese interests are the driving forces for Russia's strategic interest in Myanmar (Khan, MNM 2021).

In addition to that, the recent military operation of Russia in Ukraine has already rung the alarm bell for the maintenance support for Russian-built aircraft (Moniruzzaman, ANM 2022). Other than that, the capability of Russian aircraft has also fallen under a big question mark due to the huge loss of aircraft during the conflict (Kirchberger, S 2022). According to open-source statistics, the Russians have lost over 134 aircraft to date, including 11 Su-30, 9 Su-30, 1 IL-76, and 1 Su-35, one of the most modern pieces of machinery. The defense ministry of India also noted a similar point due to its vast dependency on Russian military hardware (The Times of India 2022). India's military imports from Russia decreased by 53% since 2016 as pointed out by the SIPRI Fact Sheet Data-2020.

The findings of different research mentioned above have highlighted that a change in military trade plan or a paradigm shift is necessary based on the geopolitical interest, crisis analysis, and capability of the product.

Geopolitics - According to Merriam (2022), geopolitics is a study of the influence of such factors as geography, economics, and demography on the politics and especially the foreign policy of a state. Geopolitics is the study of how nations, corporations, terrorist organizations, etc. attempt to influence geographic aspects of the world in order to achieve their political objectives. Geographical entities are what we term these features. Geographical entities are the locations, polities, spheres of influence, sizes, and networks that constitute the globe. However, the present geopolitical situation at has a direct relation with BAF will only be considered in this paper.

Paradigm Shift - According to Cambridge (2022), a paradigm shift is a time when the usual and accepted way of doing or thinking about something changes completely. It is an important change that happens when the usual way of thinking about or doing something is replaced by a new and different way. The shift only in the aviation sector of BAF will be considered in this paper.

3.0 Research Methodology

The process of carrying out a study using scientific techniques and approaches to solve the research topic is known as a research methodology (Kothari, CR 2004). A researcher must choose and use the most specialized techniques and approaches to arrive at significant study results (Mouton & Marais 1992). Research philosophy, methodological choice (research approach, methodologies), research strategies, techniques, and procedures, as well as time horizon, are some of the stages of the research method known as the "Research Process Onion." (Saunders & Tosey 2017; Saunders et al. 2009). Below is an explanation and description of the onion method that has been used in this study.

3.1 Research Philosophy

The ontological and epistemological worldviews have an impact on the philosophical issues in research (Bryman, A & Bell, E 2015). The two basic ontological viewpoints or paradigms are objectivism and subjectivism (Bryman, A 2012), and the main epistemological philosophies or paradigms are positivism, interpretivism, realism, and pragmatism (Saunders et al. 2009). By looking for experiences and perceptions, the interpretivism paradigm and qualitative approach enable researchers to disclose the deeper layers of a specific social situation (Alharahsheh, HH & Pius, A 2020). As a research philosophy, interpretivism has been used in this study.

3.2 Research Method

There are two types of research methodologies: quantitative and qualitative methods (Brymen, A & Bell, E 2015). While research using the qualitative approach focuses on theoretical issues, and data is gathered and analyzed qualitatively, research using the quantitative method focuses on quantitative issues, and data is gathered and evaluated numerically. A content analysis approach has been used to conduct this study. Both qualitative and quantitative data collection techniques were used in content analysis research. For this study, a qualitative approach was deemed more suitable to meet the goals of the investigation and uncover the fundamental motivations behind the research questions. In order to understand the nature of the problem and make solution suggestions using the inductive method, key information has been gathered from secondary data sources and the most pertinent individuals were interviewed.

3.3 Research Strategy

The study's method of gathering the data is known as the research strategy. Depending on the goals and objectives of the study, either primary or secondary sources were used to collect data (Bryman, A 2012). In order to conduct this study, both primary and secondary data have been used. This study needs qualitative data because of its goals. Interviews, observations, focus groups, key informant interviews, and other methods were used to gather qualitative data in contrast to quantitative data collection methods such as questionnaire surveys and secondary data (Cassell & Symon 2011; Holley & Colyar 2009a; Toladata 2022b). Due to the nature of this study, the primary data has been collected through a Key Informant Interview (KII) and the secondary data has been collected from different available sources.

3.4 Techniques and Procedures of Data Collection and Analysis

Secondary sources such as books, journals, publications, thesis papers, articles, newspapers, websites, blogs, and organizational reports were the main sources of the data collection due to security concerns. The goal of key informant interviews is to speak with the selected few individuals who possess the information, ideas, and insights required on a certain subject (Kumar 1989a and Jha 2011b). In order to get more pertinent and correct data for this study's questions and to enhance the research's ability to offer useful suggestions and recommendations for a better solution, the Key Informant Interview has been used as the method of data gathering. Following the purposive sample method, key informant interviews were conducted to determine the current

difficulties in BAF fleet operation and maintenance. Data were gathered through key informant interviews with officials of the BAF personnel and retired officials of foreign ministry with the experience of working as an ambassador and foreign secretary. The narrative analysis technique, which is well-known and renowned for data analysis in qualitative research, provides researchers with a specific structure and language they can use to produce texts (Cassell, C & Symon, G 2011a; Holley, KA & Colyar, J 2009b). In order to analyze the data for this research, the narrative analysis technique has been used. This research has a great deal of application to the researcher because he is an active pilot with previous experience working in the Armed Forces Division. In this study, ethical and security concerns were upheld.

3.5 Limitations and Assumptions

The study is limited only to the BAF's future aircraft acquisition plan for the purpose of this research. Again, research has been conducted based primarily on secondary data and secondarily on the interview of responsible and significant appointments. Due to time constraints, many of the interviews could not be conducted. It has been assumed that the respondents provided authentic information and actual situation to the researcher.

4.0 Results and Discussion

As mentioned in the methodology, secondary data has been used as the primary source of this research to strengthen the study. However, some interviews have been carried out with the BAF officials having deep knowledge of the BAF operations, its maintenance, and challenges. In addition to that, two retired civil servants with working experience as the ambassador, foreign secretary, and secretary to the Government of Bangladesh. The list of KII is appended below:

Serial	Name	Appointment	Code
1	Humayun Kabir	Ex Ambassador (Retired)	A
2	Shahidul Huq	Ex Foreign Secretary (Retired)	B
3	Gp Capt Monirul Islam	Deputy Director, Directorate of Engineering, Air Headquarters	C
4	Sqn Ldr Koushik Ahmed Razib	Flight Commander (Operations), F-7BG Squadron	D
5	Wing Commander Md Al-Mamun	Flight Commander (Operations), F-7BGI Squadron	E

6	Sqn Ldr Sadik Ahsan	Flight Commander (Operations) MiG-29 Squadron	F
7	Sqn Ldr Shahrukh Arman	OIC Flight Line, F-7BG Squadron	G
8	Md. Habibur Rahman	Secretary, Power Division	H

A number of dominant, themes/patterns emerged from the collected data, which were categorized, linking to the objective of the study. These are explicated below:

4.1 Issues related to maintenance of operational capability of BAF aircraft

4.1.1 US-China Relation, Military Trade, and Challenges of BAF

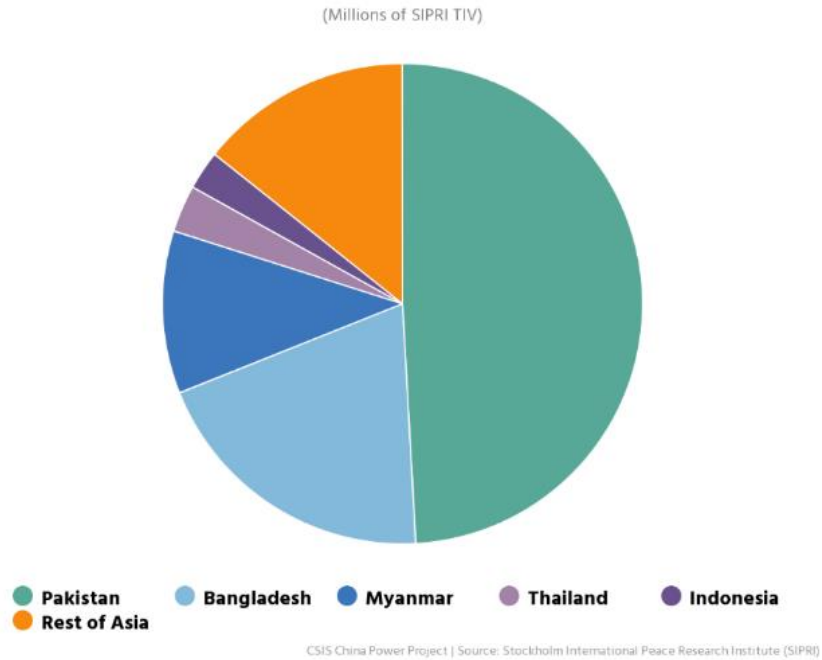
Taiwan is the focal point of the intensified rivalry between China and the United States for global dominance in 2022. Although the archipelago has long been the source of tension in U.S.-China ties and the center of the issues are mainly Taiwan and the South China Sea (Wood, J.R. 2021). Beijing always insisted that Taiwan is a part of China and so is the South-China sea. Any escalation of the relationship between these two powerful rivals is going to be a geopolitical mystery. The COVID-19 epidemic has already demonstrated the misery of global production lines when China was unable to provide goods. Military goods were not out of that misery. In view of the above, code C stated that,

China-U.S tension is a big concern for BAF. Any escalation of the situation will seriously hamper the operational capability of BAF.

China accounts for around 12% of global trade (Bloomberg 2022). In addition, China has become a significant player in the world arms trade as a result of long-term economic progress and continued military upgrading initiatives (Bruton, GD et al. 2021). China was a net exporter of weapons in the last ten years and sells the majority of its weapons to its neighbors. The Stockholm International Peace Research Institute (SIPRI) reported that China shipped military equipment valued at roughly 16.6 billion TIV (Total Insurable Value) worldwide between 2010 and 2020. Almost 77.3 percent of the total went to Asia (Schrag, J 2021). This pattern has persisted as China has assumed a larger role in the world's weapons industry. China has sold a total of 63.4 percent of conventional weaponry to Bangladesh, Myanmar, and Pakistan since 2010. Additional Chinese weapons were bought by 13.9 percent of other Asian nations (Schrag, J 2021). In line with the above, both codes A and B stated that,

Chinese equipment is comparatively cheaper than European and American equipment. That's the reason Bangladesh and other countries like Bangladesh are purchasing those.

Figure 4.1.1.1: Chinese arms trade in South Asia (2010-2020)



Bangladesh is the Leading consumer of Chinese military equipment. Between 2010 and 2020, China sold 2.6 billion TIV (Total Insurable Value) of military products to South-Asian countries, and 73.6 percent of that came into Bangladesh. China encourages these purchases with generous financing and affordable costs (Schrag, J 2021). As a result, the BAF amassed a sizable number of Chinese aircraft over time.

Figure 4.1.1.2: List of Chinese aircraft in BAF

<i>Aircraft</i>	<i>Origin</i>	<i>Type</i>
<i>Chengdu F-7MB</i>	China	Interceptor
<i>Chengdu F-7BG</i>	China	Interceptor
<i>Chengdu F-7BGI</i>	China	Interceptor
<i>K-8W</i>	China	Jet Trainer
<i>L-410</i>	China	Light Transport + Trainer
<i>PT-6</i>	China	Basic Trainer

Source: Wikipedia

BAF is operating three squadrons of Chinese-origin fighter aircraft (Figure 4.1.1.2). This indicates that the main fighting capacity of BAF is depending on the performance of Chinese aircraft. Code C also stated in line with the above statement,

Chinese aircraft, which we operate in vast numbers, form the basis of the BAF's fighting capability.

As the number of Chinese aircraft is more, the supply chain management and infrastructure also developed over time based on these aircraft. Code G stated in addition to the above statement:

Since BAF flies a sizable fleet of Chinese F-7 series aircraft, that is where the majority of the maintenance and repair capacity was developed. Due to the lack of spare components, the Maintenance and Repair Unit (MRU) has been working on a significant number of airplanes as they wait for this job to be completed.

Management of the supply chain affects a force's ability to operate. When anything breaks, it also reduces capacity. Now, any dispute with the United States will probably disrupt the supply chain in a similar fashion to how the conflict between Russia and Ukraine has impacted the handling of spare parts for Russian aircraft. Moreover, the dependency on one country may lead to monopoly business (Lewandowski, R 2014). Code E also supported this and stated that:

The current supply chain for these aircraft is having issues due to a paucity of spare parts and the OEM's lack of interest in engaging in tender bidding. In addition, it is conceivable that the OEM of these aircraft is attempting to establish a monopoly in this market.

It goes without saying that BAF will endeavor to obtain such parts through alternative ways if OEM attempts to operate as a monopoly or displays a lack of enthusiasm in providing spare parts. However, the third-party problem doesn't offer adequate guarantees. Code G also agreed with the above statement and shared that:

BAF is attempting to purchase from third-party suppliers due to the unavailability of OEM spare parts, which is leading to low quality and erroneous guarantees.

Further to that, BAF had been putting up a plan to buy Multi-Role Combat Aircraft (MRCA) since 2017 (Dsouza, L 2017). The initial plan was to purchase aircraft that complied with

European standards, but ever since that statement, Chinese aircraft have seen a significant reduction in their supply. Most of the KII above suggested the aforementioned. Now, it is conceivable that China may not be keen on the idea of purchasing airplanes with a competitor's provenance. It shows that future aircraft procurements are likely to fall under the diplomatic pressure of China. However, in this regard both codes A and B shared a similar opinion:

The aviation industry is quite large. It follows that China will undoubtedly make every effort to market its own goods. However, diplomatic pressure may be managed if BAF wishes to buy aircraft from other countries.

In view of the above, all the KII were asked whether BAF should go for a new platform other than existing platforms or not. All have agreed with the concept of the shift except Code A and B. They shared slightly different opinions in this regard. Both of them stated that:

European and American aircraft are good but costly. We should only consider those aircraft once enough fund is available.

However, both of them accepted the researcher's suggestion that the procurement could be accomplished over a long period with a minimal number of aircraft.

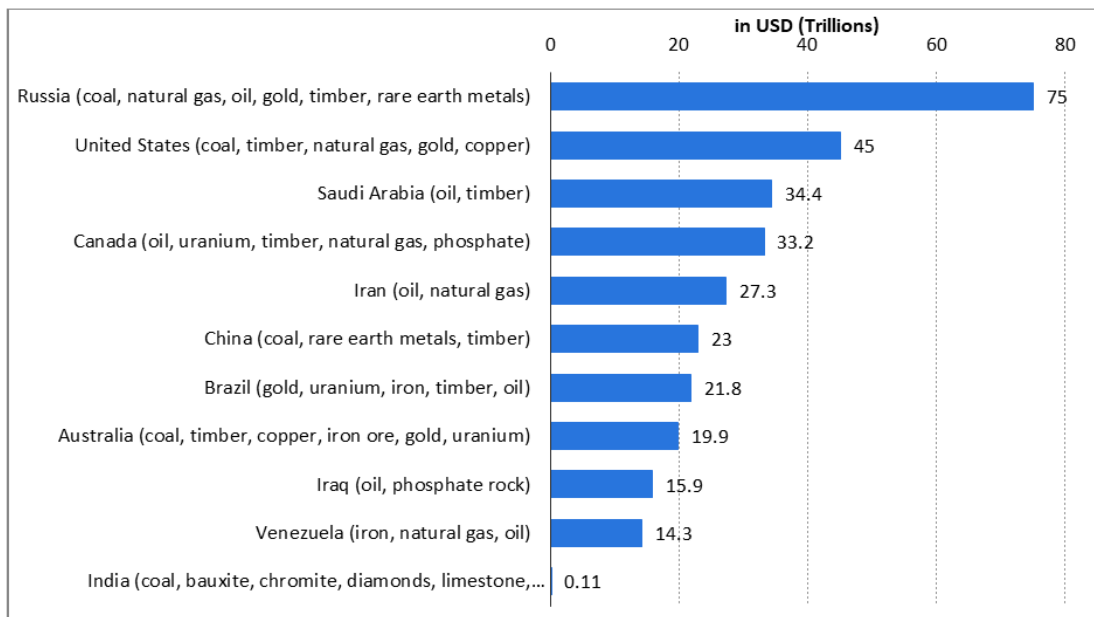
4.1.2 Russia-Ukraine Conflict, Military Trade, and Challenges of BAF

Since the collapse of the Soviet Union, the relationship between Ukraine and Russia has been abnormal, unstable, and contentious. The following issues, along with a few others, have significantly affected relations between Ukraine and Russia: The official disposition of Soviet Union assets and debt, Ukraine's significant energy debt, NATO's eastward expansion, the delineation of the two countries' borders, and the situation of the Russian minority in Ukraine are all factors that should be considered (Sol'anyk, 2001, p. 9).

On February 24, 2022, Russia invaded Ukraine naming it special military operations. Considerable economic penalties on Russia were announced by Ukraine's allied powers in response to this strike, including withdrawal of Russia's central bank and important banks from the SWIFT, the primary global payments system" (Aloisi & Daniel, 2022). The restrictions continued and so as the Russian military operation.

Since the global economy and financial markets are intertwined, millions of people across the globe have been affected (Egan, V 2022). Russian supply chains for both commercial and defense aviation have been severely damaged by the Ukraine situation. As a result of that, the defense sectors of Russia’s near-term prospects aren’t that promising either (Sabnis, V 2022). Russian resources, among others, are a significant component of the aircraft production process. However, Russia is also dependent on other nations for some the of raw materials which are essential for aircraft production. A comparative state of raw resource sourcing gives a good sense of the effects on production because these raw materials represent the first stage of any supply chain.

Exhibit 4.1.2.1: Leading Countries based on Natural Resource Value



Source: Statista, Investopedia, WorldAtlas

In addition to that, The Russian defense sector has suffered as a result of the battle of attrition, particularly in the bottom rungs of the supply chain. Due to the crisis and the sanctions, Russian military hardware companies may completely run out of parts. They are also critically low on parts made abroad. Additionally, Russia has been unable to provide other allies with military hardware due to these restrictions (Sabnis, V 2022).

In view of the above, code H also shared a similar opinion mentioned above during a discussion session. He stated that:

Currently, the fighting has caused a dramatic decline in Russian raw materials. Due to the raw materials and specific chips they used to purchase from the American market, their tank production has completely ceased. They can't import all those chips to make tanks because of the sanctions placed on them.

Behind the United States, Russia is the second-largest exporter of weapons in the world, accounting for 20% of all global arms sales and earning \$15 billion annually. But every single day in Ukraine, this industry—on which a portion of the Russian economy depends—is being destroyed (Wilson Center 2022). The defense sector won't completely understand the entire effect until the conflict has been resolved (Sabnis, V 2022). However, both codes A and H have opined that the situation is unlikely to be resolved very soon.

Vietnam, Myanmar, Malaysia, and Indonesia are Russia's top Southeast Asian defense clients (Figure 4.1.2.1). Russia has provided these countries with a comprehensive spectrum of military gear (fighters, submarines, tanks, and small weapons) at prices that are less expensive than those made in the United States and Europe. Additionally, unlike the U.S.A and European nations, Russian defense businesses encourage collaborative manufacturing, accept partial payment in supplies, and do not examine a country's record for human rights when selling armaments. Furthermore, due to sanctions, some nations, such as Vietnam up until 2016 and Myanmar, Cambodia, and Laos until this point, have been unable to purchase armaments made in the West, forcing them with no alternative but to purchase from Russia and China (Storey, I 2022). It has sold weaponry worth \$10.8 billion to the area since 2000.

Figure 4.1.2.2: Russia's Arms Sales to Southeast Asian Countries, 2000-2021 (US\$ millions)

	Cambodia	Indonesia	Laos	Malaysia	Myanmar	Thailand	Vietnam	Total
2000			7				2	9
2001				1	87		89	177
2002		11		46	134		54	245
2003		229		16			2	247
2004		27			120		294	441
2005					137		164	301
2006			4		151		16	171
2007				398	127		2	527
2008		41		400	14	3	164	622
2009		165		399	14		53	631
2010		191			47		149	387
2011		58			382	20	974	1,434

2012		19	14	2	144		760	939
2013		351		12	55		313	731
2014		54			28		1,056	1,138
2015					12	14	735	761
2016							702	702
2017					69		465	534
2018			66		72	14	333	485
2019			18		31		137	186
2020			17		64	20	9	110
2021	5	9	3				72	89
Total	5	1,155	129	1,274	1,688	71	6,545	10,867

Source: Stockholm International Peace Research Institute (SIPRI), <https://www.sipri.org/databases/armstransfers>

In view of the above statistics Code C, who works in the engineering directorate at BAF Headquarters, said:

Even though Bangladesh isn't one of the top five countries that receive Russian military exports, BAF operates the majority of Russian-made aviation equipment after Chinese equipment. The bulk of the Russian-built aircraft used by BAF is utility planes, along with some fighter and transport versions.

Figure 4.1.2.3: List of Russian aircraft in BAF

<i>Aircraft</i>	<i>Origin</i>	<i>Type</i>
<i>MiG-29</i>	Russia	Multirole Fighter
<i>Antonov An-32</i>	Russia	Transport
<i>Mi-17</i>	Russia	Utility/Transport
<i>Mi-171SH</i>	Russia	Armed/Utility/Transport
<i>Yak-130</i>	Russia	Fighter Trainer

Source: Wikipedia

BAF is experiencing significant difficulties as a result of the crisis between Russia and Ukraine. Code G has shared that:

The majority of BAF's maintenance issues stem from the fact that the aforementioned aircraft's overhaul was to be conducted in either Russia, Ukraine, or Belarus. For instance, in the past, Ukraine primarily handled AN-32 airplane maintenance. However, because of the conflicts, upcoming overhauls are questionable, even if they are already overdue for the aforementioned aircraft. As

a result, BAF was forced to postpone this aircraft's overhaul for an unknown period of time.

Code G also made the following comparable claims:

The location of one of the engines from a Mi-17 series aircraft that had been delivered to Ukraine was unknown after the crisis started. The return of that engine, however, is unknown despite the information that was later obtained.

BAF currently possesses one fleet of MiG-29 aircraft of Russian origin. The Russian-Ukraine conflict has seriously hampered the maintenance and overhaul of these aircraft as the third line of maintenance is not possible in Bangladesh. Code F has shared his opinion in line with the above:

The overhaul of MiG-29 aircraft is under serious threat. Though Russia agreed to complete the overhaul of Mig-29 aircraft, the price is comparatively double from earlier. The payment method is yet to find out as well.

Russian munitions were used in large quantities since it was thought that they were reliable, potent, and suitable for South Asian countries prior to the Russia-Ukraine conflict. However, the prestige of the nation's military industry has been damaged as a result of the struggles on the Ukrainian battlefield (Kirchberger, S 2022). Open-source figures show that the Russians have lost more than 134 aircraft to this point, including 11 Su-30s, 9 Su-30s, 1 IL-76, and 1 Su-35, one of the most advanced pieces of equipment (Wikipedia 2022). However, the buyer nations may give a second thought about their purchases after witnessing the destruction of Russian military hardware in Ukraine (Boulianne, M 2022).

The defense ministry of India also noted a similar point due to its vast dependency on Russian military hardware. India's military imports from Russia decreased by 53% since 2016 as pointed out by the SIPRI Fact Sheet Data-2020. Additionally, India canceled 1 billion USD worth of military deals with Russia recently and bought Raffaele fighter planes made in France under a sizable deal for infrastructure development and knowledge transfer (The Times of India, 2022). It may be predicted that more Russian buyers of armaments may switch to foreign rivals (Wilson Center 2022).

In view of the above, codes C, D, E, F, and G all agreed that this is a concern for all potential buyers. They also agreed that if possible BAF should plan for a shift to a different origin aircraft

that can pose a better threat to the adversaries. Code A and B both were asked about switching to a different country and both have stated similarly that switching is the best option provided that Bangladesh can arrange the fund.

4.1.3 The Myanmar Crisis

The Rakhine state of Myanmar had 3.8 million residents, of whom an approximate 59.7% identify as Buddhist, 35.6% as Muslim (Rohingya), and the remainder as members of other faiths (Mohajan, H 2018). The Rohingyas are descended from a variety of ethnic groups, including Bengalis. The Burmese military dictatorship is unwilling to recognize them as Myanmar nationals, and, eventually pushed 1.2 million inside Bangladesh (Taufiq, HA 2019).

The international community has reacted differently as per their interest. The US views the horrors committed against the Rohingya as ethnic cleansing rather than genocide. Genocide has political overtones and calls for political action. The Convention on the Prevention and Punishment of the Crime of Genocide, which obliges signatories to take steps to stop genocide, has been ratified by nearly 150 countries. Out of concern that it might need military intervention, the US has refrained from using that word in previous genocides, such as the Rwandan genocide. Myanmar's military receives weapons from China and Russia. China has made an effort to stop the UN from sponsoring an inquiry into Myanmar's treatment of the Rohingya population. Beijing has economic ties to Myanmar, and as part of the Belt and Road Initiative, and also developing a deep seaport and a railway from China to the Rakhine State to help with energy transportation. In order to have an opening in the Indian Ocean, China would like to further deepen its ties with Myanmar (Miller, H 2022).

Russian weaponry has long been purchased by Myanmar. After China, Russia is Myanmar's second-largest arms supplier. Its percentage represents 16% of all the weaponry Myanmar procured between 2014 and 2019. Myanmar is now awaiting delivery of six Su-30 fighter jets (Figure 4.1.3.1), the parties inked a contract for the purchase of a Russian anti-aircraft system and several UAV drones for tactical reconnaissance as well. Russia received about \$1,5 billion for its weaponry between 1999 and 2018 (Kironka, K. 2021). Despite doing well commercially in Myanmar, Russia's primary objective is to defend China's interests. Given that China has substantial interests there, Russia is unlikely to be against Myanmar. (Kironka, K. 2021).

Figure 4.1.3.1: Myanmar’s military aircraft purchase from Russia in 2010-2021

Recipient/Supplier	Ordered	No. Designation	Weapon Description	Year(s) of Order	Year(s) of Delivery	Number Delivered	Comments
Myanmar: Russia	10	Mi-24P/ Mi-35P	Combat Helicopter	2009	2010-2015	10	Probably second-hand but modernized before delivery; Mi-35P version
	14	MiG-29	Fighter Aircraft	2009	2011-2014	14	Part of \$570 m deal; incl Mig-29UB version
	6	MiG-29S	Fighter Aircraft	2009	2011-2012	6	Part of \$570 m deal
	12	Mi-2	Light Helicopter	2010	2010-2011	12	Probably armed version
	6	Yak-130	Trainer/Combat Aircraft	2015	2017	6	
	6	Su-30MK	FGA Aircraft	2018			\$200 m deal; Su-30SME version
	8	Yak-130	Trainer/Combat Aircraft	2018	2018-2019	8	
	6	Yak-130	Trainer/Combat Aircraft	2019	2020	6	

Source: SIPRI Arms Transfers Database

Figure 4.1.3.2: Bangladesh’s military aircraft purchase from Russia in 2010-2021

Recipient/Supplier	Ordered	No. Designation	Weapon Description	Year(s) of Order	Year of Delivery	Number Delivered	Comments
Bangladesh: Russia	3	Mi-8MT/ Mi-17	Transport Helicopter	2011	2012	3	Mi-171 Version
	16	Yak-130	Trainer/Combat Aircraft	2013	2015-2016	16	\$800 m deal; option 10 more
	5	Mi-8MT/ Mi-17	Transport Helicopter	2015	2015-2016	5	Armed Mi-171SH version; financed with Russian \$1 b credit
	6	Mi-8MT/ Mi-17	Transport Helicopter	2015	2016-2017	6	Mi-171SH armed version; financed with Russian \$1 b credit
	6	Mi-8MT/ Mi-17	Transport Helicopter	2017	2019	5	Mi-171SH VN armed version; incl for UN peacekeeping operations

Source: SIPRI Arms Transfers Database

The comparison between Figure 4.1.3.1 and Figure 4.1.3.2 also demonstrates that Myanmar imports more Russian planes than Bangladesh. Additionally, Russia has strong political and economic ties with China as a result of its political interests. Since China has a greater geopolitical interest in Myanmar, it is unclear whether Russia will support Bangladesh (Hossain, D & Islam, MS 2021). According to open-source data, it was found that China and Russia both supported Myanmar in the issue of the Rohingya crisis. Code B also agreed with the statement asserting that:

If China is interested, the Rohingya situation might be resolved very quickly. However, because of its interest in Myanmar, the nation has yet to offer the assistance we require. Due to China's interest, Russia is likewise keeping quiet about the matter.

4.2 Issues Related to the Necessity of a Paradigm Shift

As previously stated, this research is mostly based on secondary data with a little amount of primary data that has been gathered by the KII from various authorities in relevant sectors. The BAF flies mostly Chinese- and Russian-built aircraft, according to the KII from BAF Headquarters, code C. Furthermore, he added that the BAF's fighting prowess is based mostly on Chinese-built aircraft and secondly on Russian-built aircraft. It has been determined that 30% of the BAF's fighting capabilities are reliant on Russian aircraft, with the remaining 70% relying on Chinese aircraft.

Chinese aircraft maintenance and aging problems were noted by codes C, D, E, and G. Code E added that China's monopoly in the market must not be dismissed. However, secondary sources revealed that MRCA aircraft are necessary for maritime boundary security. The geopolitical problem should be the key consideration while choosing the new platform. Due to the Taiwan and South China Sea disputes, it was determined from the secondary sources that long-standing power rivals China and the U.S. are now intensifying the situation. The U.S.-China crisis is not going to be addressed anytime soon. Furthermore, the Taiwan issue has compelled both parties to adopt different stances. It was also brought out that if these two massive nations engage in direct war, it will hinder the global military supply chain.

The Rohingya problem also came up, becoming Myanmar Bangladesh's most immediate competitor at the moment. China's foreign policy is more inclined toward Myanmar owing to its geopolitical aspirations, despite the fact that Bangladesh receives the most avionics from China. The secondary data sources, however, have also revealed that China is more inclined to back Myanmar than Bangladesh. The KII have all agreed that leaving the Chinese platform is vital in light of the aforementioned, although codes A and B have both brought up the financial concern. They did concur, though, that a long-term strategy could be able to address the problem.

According to the code C declaration, Russia is Bangladesh's second-largest supplier of avionics behind China. But Myanmar's primary source of military equipment is Russia. According to

secondary data sources, Russia's South Asia strategy will likely be influenced by China's geopolitical goals and its ongoing commercial relations with Myanmar in this situation. Therefore, it follows that Russia will likewise keep quiet if there is any confrontation between Bangladesh and Myanmar.

Additionally, issues with supply chain management and maintenance have already begun to influence the Russian fleets of the BAF. Codes F and G called attention to the AN-32's delayed maintenance overhaul, the Mi-17's lost engine, and the pricey MiG-29 repair brought on by the Ukraine conflict. Additionally, it was discovered via secondary sources that Russia itself is experiencing a spare parts problem as a result of a lack of raw materials and other western sanctions. The likelihood that this scenario will persist for some time was also disclosed

In addition to the aforementioned, another significant problem that several studies discovered was that Russian equipment malfunctioned during the conflict in Ukraine. According to secondary reports, powerful Russia lost a total of 134 aircraft, including one of the newest Su-35 aircraft. Given the foregoing, it has been projected that future prospective purchasers are likely to give Russian avionics a second thought. The Indian government's decision to cancel a \$1 billion deal serves as evidence that the assumption is correct. It should be noted that from 2016 to 2020, Indian imports from Russia fell by 53%.

In light of the aforementioned, the KII as a whole concurred that avoiding Russian-made products in favor of those from other sources could be the wisest course of action for future purchases. Codes A and B, however, have once more brought up the financial concern while also agreeing on a long-term procurement strategy.

4.3 Findings

This paragraph highlights the summary of the appropriate findings based on the study. The purpose of the paper was to find the requirement of a paradigm shift for BAF in future aircraft procurement. Based on the discussion in previous chapters following findings were useful to recommend the way out to complement the future procurement policy of BAF:

- a. It is unlikely that the China-Russian confrontation would end soon. Instead, it's more likely to make things worse. The U.S. is highly possessive about the Taiwan

problem, which could make things worse because China is unlikely to change its position.

b. The supply of the parts will be made even more challenging in the event of a physical conflict between the United States and China.

c. The current Chinese fleet is aging and having numerous issues. Additionally, the OEM company is attempting to establish a monopoly with its vast fleet of airplanes.

d. The Chinese suppliers are not participating in the spare parts bids, thus, BAF was forced to make purchases from outside companies, which resulted in a higher price. Additionally, there are concerns about the products' quality as well.

e. It is doubtful that China will back Bangladesh in a confrontation with Myanmar.

f. The current conflict between Russia and Ukraine has severely disrupted the supply chain, making it difficult to maintain, overhaul, and obtain spare parts for existing Russian-made aircraft.

g. Russia's sanctions are not likely to be lifted anytime soon.

h. Russian aircraft turned out to be less effective than anticipated.

i. In comparison to Bangladesh, Myanmar has a larger fleet of Russian aircraft. Additionally, given the China issue, Russia is unlikely to back Bangladesh in a conflict with Myanmar.

j. BAF aircraft are mostly getting old, and it is predicted that replacement will be required very shortly.

k. A squadron of MRCA aircraft is required for BAF to safeguard the maritime boundary of Bangladesh.

l. Fund is constrained in Bangladesh and European and American aircraft are costly.

m. Only a long-term procurement strategy based on modest expenditure may enable a paradigm shift away from airplanes made in China and Russia with accuracy.

5.0 Conclusion and Recommendation

5.1 Conclusion

Geography and politics are intertwined. The direction of global foreign policy is determined by the geopolitical and geographic interests of the major players. Every country needs to be aware of the geopolitical environment and how a crisis will affect it because this will affect how its future policies are carried out. The current geopolitical situation, which is expected to persist, is actively being participated in by both China and Russia. In this case, BAF's decision-makers must create plans for the foreseeable future.

China is the major supplier of avionics to the BAF and the focal point of geopolitics in South Asia. Russia, which has a keen interest in China, is BAF's second-largest supplier. China is a strong supporter of Myanmar in terms of its geopolitical objectives. In addition, Russia is Myanmar's top supplier of avionics. Bangladesh and Myanmar are currently at odds, and this tension is likely to persist. As a result, BAF must prepare for any potential crises in advance. It is now crucial to plan for a paradigm change to strike the correct balance and get ready for potential geopolitical catastrophes.

5.2 Recommendations

The study makes the following recommendations based on its analysis and conclusions to help BAF plan its next acquisition of aviation equipment:

- a. BAF may use the current Chinese and Russian equipment until it has served its purpose. After the service life expires, BAF may have plans to switch to an appropriate choice.
- b. To increase operational capabilities, BAF may choose not to maintain a large number of aircraft from the same origin.
- c. BAF may want to purchase a new platform with technology transfer to lower the price of maintenance and replacement parts in the future.
- d. Other than China and Russia, new platforms will probably be expensive. As a result, BAF may consider long-term acquisitions (10 or 15 years) to ease the strain on the national budget.

Implementation Action Log

Action	Responsibility	Timeframe	KPI
Procurement of one squadron of MRCA aircraft	BAF Headquarters, Armed Forces Division, Ministry of Defense, Ministry of Finance, Ministry of Foreign Affairs	10 years	\$3.5 Bn

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