

Utilization of disused airfields of Bangladesh both during peace and war

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Abstract

Airpower played a vital role in shaping the result of the Second World War. As a British colony, the Indian Sub-continent was targeted by Imperial Japan. The Japanese Forces came up to Myanmar (then Burma) and their next target was the Indian sub-continent. Due to the geographical location, Bangladesh (the then Bengal) was on the front line of British defense; as it was strategically important for Japan to occupy Bangladesh. As such, Bangladesh air space was highly contended by the belligerents. To support air operations, a good number of airfields were prepared by the British-led forces in the then Bengal. However, after the war, most of those airfields were abandoned. British left the region in 1947 and Bengal became part of Pakistan. Economic, strategic, and political factors did not permit the maintenance of those airfields and most were left as it was. Only Tejgaon airfield was used by Pakistanis for both civil and military aviation purposes. After the independence of Bangladesh in 1971, an effort was made to revive some of those airfields.

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1. Introduction

Bangladesh is becoming economically stronger. With her economic growth, she needs a strong defense to ensure her sovereignty. To meet the future requirement, Bangladesh is preparing its defense forces under the national guideline named Vision -2030 which is also commonly known as Forces Goal- 2030. As per this, BAF is going to have more combat and combat support units with the necessary aircraft and helicopters. The airfield is a very important element of air power. Military power cannot be projected without airfield support. Presently BAF is operating from four airfields out of which three are civil airfields. The city traffic is increasing with the economic growth of the country day by day. It is becoming difficult for BAF aircraft to operate from those joint airfields because of increased city traffic. This situation will be further complex as several civil traffic is on the rise. So it will not be possible to operate an increased number of BAF aircraft from those airfields.

As such, BAF must look for alternate airfields for her future expansion. Disused airfields are the best option as construction of a completely new runway is highly expensive and land scarcity in the country would it even more difficult. Many British-built airfields still exist in Bangladesh. In due course of time, a few of those are no more in existence, many of those are not in good shape due to misuse and lack of proper maintenance, but few are still in good condition.

2. Research objective

To recommend the feasibility of using disused airfields of Bangladesh both during peacetime and wartime.

3. Problem statement

Bangladesh has a limited number of active airfields. BAF is operating with civil traffic in most airfields because of this limitation. This is becoming difficult to operate from those airfields due to traffic congestion. It hampers effective training, and the economy of effort and jeopardizes flight safety. The situation will aggravate in the future when the number of both BAF and civil traffic will increase. Bangladesh has many disused airfields. If BAF takes over some of those airfields and maintains them to operable standards then it would be beneficial in case of the national requirement. This will also help BAF to operate more effectively both in peace and wartime. The core issues with this research are disused airfields (independent variable) and utilization of those airfields by BAF in peace and war (dependent variable). To search for a pragmatic solution to the problem statement, this research has been limited to the following questions. Primary question is: what may be the peacetime and wartime utilization of disused airfields of Bangladesh?

Secondary Questions are: what is the BAF's requirement for the airfield to meet the expansion plan as per Forces Goal-2030? And what are the airfields that may be developed for future requirements?

4. Limitations and assumptions

This research is mainly based on the primary data available from different sources and interviews with specialists. It is not possible to check the physical condition of those airfields which would give a better understanding of the present condition of those airfields due to time constrain and the scope of the research.

5. Hypothesis

Bangladesh has had many disused airfields since World War II. If BAF takes over some of those airfields and maintains them, those airfields may be used for regular use, disaster management, or natural calamity. It will reduce the traffic congestion on the jointly operated airfields, provide effective and economical training to BAF and promote Flight Safety. In wartime, this will provide good options for more operating surfaces, dispersal of the assets, and increased radius of action for friendly aircraft.

6. Present state of airfields in Bangladesh

Bangladesh is a small country with growing demand for land for industry and agriculture. In 2011 government planned to build a new airport at Munshigonj (Aerial bill), which is a marshy land. But in the face of strong protest from local people, the government abandoned the project. The runway length of Bogra airfield could not be extended as land could not be acquired yet. In light of this fact, it is very important to maintain the disused airfields not only for BAF, but also to facilitate civil aviation and other national requirements. If disused airfields are renovated; civil airliners and any other agencies may also be benefited. This would improve responsiveness during times of natural calamities like floods and earthquakes. During wartime, the airfield is the platform from where military force can be projected through aircraft [7]. The existence of an active airfield and associated infrastructure is an additional factor in regional, social and economic development. It is a very costly affair to construct an airfield even if the land is available.

Present State of Airfields in Bangladesh: Bangladesh possesses 43 airfields/landing strips. These airfields can be classified as operational airfields, STOL Ports, or Disused and Usable airfields. After independence, the country only developed a few airfields to meet the requirement [1][2]. Out of all the available airfields, BAF jointly operates with CAAB from all those airfields except Tejgaon which is dedicated to BAF operation (except fighters). BAF also uses Bogra for basic trainer aircraft and Shamshernagar for limited air transport operations. Cox's Bazaar airfield is fit for the emergency operation of BAF jet aircraft. However, Cox's Bazar runway is likely to be extended by another 1,500 feet which would allow fighter jets to operate from Cox's Bazar. Recently BAF has signed an MOU with CAAB, where BAF is authorized to establish necessary installations around the Barisal airfield and operate from there.

6.1 Active/operational airfields

In total 12 airfields are classified as operational; those are Kurmitola (Hazrat Shahjalal International), Tejgaon, Chittagong, Jessore, Cox's Bazar, Rajshahi, Saidpur, Sylhet, Barisal, Bogra, Shamshernagar, and Lalmonirhat.

6.2 STOL ports

There are three STOL ports; Comilla, Ishurdi, and Thakurgoan.

6.3 Disused and usable airfields

Some airfields were used earlier during World War II and are not in use now. These airfields have basic structures and more importantly, the land is not yet grabbed by locals. There are 15 airfields of this kind, which can be used for undertaking major or minor repair works. The following table shows the name of these airfields along with info.

6.4 Disused and unusable airfields

The remaining 13 airfields are not recoverable or unusable [4][5][9][10][11]. In this case, most of the operating surface is either damaged by the local population or in possession of land grabbers.

7. Considerations for taking over a runway

Some factors must be kept in mind while taking over or making a runway operational. These are:

7.1 Strategic considerations

To establish a runway for military use, strategic considerations must be taken into account. This should include own VAs, VPs, enemy VAs, VPs, location of probable adversary's air bases, probable enemy avenue of approach, potential enemy's capability, and other geopolitical considerations.

7.2 Runway length

A runway of at least 6,000 ft (1,829 m) in length is usually adequate for aircraft weights below approximately 200,000 lb (90,718 kg). BAF should look for an airfield that can accommodate fighter aircraft [17][18]. As such the runway length should be 7500 feet or more for fighter operation.

7.3 Availability of land

To establish an air base, a lot of infrastructure development will be needed. This will require a huge area of land in and around the airfield. So availability of land is a concern for taking over an airfield.

7.4 Topography

There should be sufficient plain land in and around the airfield so that the approach and landing path are clear of obstacles. Overrun areas are also constructed at the end of runways as emergency space to stop aircraft that overrun the runway when the landing may go wrong, or to stop the aircraft on an aborted takeoff.

8. Threat perception

Bangladesh is a very small country thus the geographical depth is also very less. Its minimum aerial depth is 140nm in East-West and 213nm in the North-South direction. The map showing the geographical depth of our country is given as Annex B. With a combat speed of 800 KPH, a fighter ground attack aircraft can reach DHAKA from the east in 5 min 25 seconds, from the North in 10 min 45 seconds [1], and from the west in 12 min 30 seconds [20][21][22][23][24][25][27]. Attacking Chittagong from the North will take 5 min 50 seconds. It is surrounded by the big neighbor India on three sides (for air power on four sides as Indian Naval air arm can attack from the south too). It has both a land and maritime border with Myanmar. The probable threats from those two neighbors are discussed below:

8.1 Air threat from India

Indian Air Force (IAF) is the fourth largest air force in the world. IAF's Eastern Air Command (EAC) would be the main threat to Bangladesh. EAC has 15 air bases in its AOR. Among these Kolkata, Barakpur, Bagdogra, Hashimara, Baranpani, Agartala, and Kumbhirgram are located close to our border. EAC has different types of fighter aircraft, such as MiG-21, MiG-23, MiG-25, MiG-27, MiG-29, Mirage-2000, and Su-30. IAF is in the process of purchasing RAFAEL, Su-30 MKI, and Su T-50 within 2022. Due to less geographical depth, we would get very less reaction time to encounter the air threat from EAC [2][3][4][8]. Indian Naval aircraft carrier would be able to pose threat from the South and may block the Sea Lines of Communication (SLOC).

8.2 Air threat from Myanmar

Myanmar has developed a balanced air force. With the changed geopolitical situation, Myanmar is becoming a more important factor in the region. This will lead Myanmar to acquire a more capable platform

for military use. As of now, Myanmar Air Force (MAF) has around 132 combat aircraft including MiG-29, A-5C, F-7, G-4 Super Galeb, and K-8 [12][13][14][15][16]. MAF reportedly has or acquiring the Maritime version of MiG-29 too. The MAF quality of training and manpower skill is difficult to determine. With present capability, MAF could launch a limited strike on Chittagong and Cox's Bazar and threatens our SLOC and Exclusive Economic Zone (EEZ) MAF may utilize civil airfields as front-line airfields in case of hostilities.

9. Peacetime and wartime use of disused airfields

Airfields may be used by BAF for the following purposes in peacetime:

9.1.1 Disaster management

Bangladesh is a disaster-prone country. Whenever any natural calamity hits, relief operations are conducted. In case of any earthquake or massive floods, many of the airfields may become unusable. Sometimes even relief operations become difficult because of the non-availability of a staging base despite the availability of local and international relief. If we can maintain those disused airfields to an operable condition then it will give us the freedom to continue with relief operations. Relief and rescue operation is one of the prime responsibilities of BAF. So BAF may take over and maintain some of those airfields at different locations of the country and help in times of disaster.

9.1.2 Pesticide control

Many of the disused airfields were used by the Bangladesh Department of Agriculture Extension in the early 70s and 80s. Due to the nonavailability of funds, this project was stopped. If Bangladesh can manage local or international funds then this can be revived. The disused airfields can be used for this purpose. This will ultimately help Bangladesh to improve its agricultural sector.

9.1.3 Increase the efficiency of BAF

Most of the time BAF traffic needs to hold for a long time for departure and rejoin from the joint airfield. This reduces air time, the aircrew gets less time to practice flying exercises, and sometimes it creates crew fatigue as they hold on the ground for a long time. If BAF would have separate airfields then these problems would not be there and that would increase the operational efficiency of the BAF as a whole. This will also enhance the efficiency of BAF personnel in maintaining an airfield.

9.1.4 Promoting flight safety

Once operating from its airfield, aircrew will be free of tension from excess traffic management, and will not need to hold for departure or rejoin. This will reduce traffic congestion in joint airfields which will ultimately enhance Flight Safety.

9.1.5 Reduce fuel cost of BAF

BAF aircraft hold for a long time before takeoff and also holds during rejoining. Thereby a lot of fuel is burnt without any effective output. If BAF would have a dedicated runway then this fuel cost would reduce just like the cost of traffic jams in Dhaka city.

9.1.6 Effective communication

If the disused airfields are maintained, then commercial airliners would also provide their service. If BAF maintains those airfields then BAF may get reimbursement from those agencies.

9.1.7 Establishing educational institute

BAF may establish several schools/colleges/universities in different places in the country around those disused airfields. This will help to promote the social development of the country. These Shaheen schools and colleges may become a good breeding ground for future BAF recruitment also.

9.2 Use of airfields during wartime

Airfields may be used for the following purposes in wartime: *Platform to Project Force*.

For takeoff and landing most aircraft need a runway. So without a runway, it is almost impossible to project military force during the war. One of the limitations of airpower is a base dependency for refueling, re-arm, and changing the crew. So, without an airfield, it is not possible to conduct any air operation.

9.3 Dispersal

During war passive air defense, and distributed dispersal is very effective. Airfields must be vulnerable from the strategic point of view as it contain high-value targets. From a passive defense point of view to survive for a long time air assets may be kept in reserve in those dispersed airfields. This dispersion may create difficulties for the enemies for detection and destruction.

9.3.1 Vital targets under reach

ROA is increased for friendly aircraft when operating from FABs. This would allow more enemy targets within the reach. These disused airfields may be utilized for this purpose.

9.3.2 Reduced interception time

If we have forward bases then it will take less time to intercept enemy attackers.

9.3.3 More enemy effort

If we have more runways then the enemy will have an increased number of runways to neutralize. It will have more chances to attack the enemy.

9.4 Disused airfields and forces Goal-2030

BAF would have 10 combat squadrons by 2030 as per Vision-2030. These ten combat squadrons would include 04 Air Defence fighter squadrons, 03 Multi-Role Combat Aircraft (MRCA) squadrons, 02 squadrons of Long Range Ground Attack Aircraft, and 01 Maritime attack squadron [30][31][32][33][34][35]. Presently, BAF has only 03 Squadrons of Air Defence fighters and 01 Ground Attack squadron. Therefore, BAF will add one Air Defence fighter Squadron, three squadrons of MRCA, one squadron of Ground attack squadron, and one Maritime attack squadron. Considering the operational priority, BAF would add 01 medium-lift transport aircraft squadron with extended range by 2030. One more utility helicopter squadron (medium lift), 01 Lands SAR, and 01 Maritime SAR squadron would be added to the present helicopter fleet of BAF [27][31]. To enhance AEW capability 03 AEW aircraft may be added. BAF plans to add 03 LRMPA by 2030.

9.5 Present operational bases of BAF

Presently BAF has four operational (flying) bases (BAF BBD, BAF BSR, BAF ZHR, and BAF MTR) among which Tejgaon runway is not fit for fighter operation. Runways of BAF BBD, BAF ZHR, and MTR are jointly operated. Flying Instructors School (FIS) operates only PT-6 from Bogra airfield. Due to traffic congestion, it would be neither possible nor wise to increase operation from these airfields. As such, BAF should look for alternate airfields for her operation.

The increased number of flying squadrons as desired by vision 2030 would require additional runways and Bases [26][28][29]. The number of operational bases would be increased by another 3-4 for the smooth and safe conduct of air operations.

9.6 Future plan of BAF (Vision 2030) regarding airfield

BAF has already signed an MOU with CAAB to establish necessary infrastructures and operations from the Barisal airfield. Moreover, In Vision-2030, eight stations (BAF Shulukia, BAF Patuakhali, BAF Tangail, BAF Bazitpur, BAF Shamsher Nagar, BAF Lalmonirhat, BAF Chiringa, and BAF Comilla) are considered for development. Among these Shamshernagar and Lalmonirhat are already under BAF.

9.7 Proposed development plan for the airfields

Options of Active Airfields for BAF Use: Some airfields are active but not used by BAF jets. Considering the geographical location, runway length, surface condition, response time in case of interception, operational reach, and ubiquity; BAF may plan to develop and operate from the following active airfields:

9.7.1 Cox's Bazar airfield

If we consider runway length (6700'), other infrastructure availability, geo-strategic importance, etc then Cox's Bazar is the best option for the South-east axis (To encounter Myanmar threat) [13][19]. Two fighter squadrons and one helicopter squadron may be deployed there.

9.7.2 Barishal airfield

Barisal would give us maximum defense in depth and related advantages. Barisal may be used to defend against Indian Naval air arm attack also. The runway length is also comfortable (6000'). Extending the runway by another 2000', BAF would be able to operate at least two to three squadrons with a lot of flexibility. BAF may have a big plan regarding Barisal.

9.7.3 Sylhet airfield

BAF may operate from Sylhet (8500') airfield with minimum effort. Only the required infrastructure for BAF operation is enough and it would enhance the ROA of BAF aircraft to a great extent. 1 fighter squadron and 1 Transport squadron may be positioned there. It will safeguard the North-East axis.

9.7.4 Saidpur airfield

Among Lalmonirhat, Thakorgaon, and Saidpur; Saidpur is geographically in the best location. The runway length is 6000', so another 2000' would be enough for any aircraft operation. BAF may deploy one Fighter Squadron and one Helicopter Squadron to cover the North-West axis.

9.8 Development of unused airfields:

The following disused airfields may be developed.

9.8.1 Tangail airfield

The runway length is only 1800' and it is difficult to extend much due to its surroundings [6].

- i. SAR squadron may be placed there to occupy the airfield. This would be good in the future as we have a training area there.
- ii. Patuakhali: Runway length is only 1800'. But it would be very good to have a maritime helicopter squadron there. Moreover, that area is disaster-prone, so whenever needed it may be used as a forward base.

9.8.2 Char Sulukia

The runway length is only 1800'. One SAR squadron may be placed there. This airfield would provide very good support in case of any natural disaster in Chittagong.

9.8.3 Samachar (Kishoregonj)

The runway length is 1800'. May be developed as a C&M unit. This airfield would provide very good support in case of an earthquake in Dhaka.

9.8.4 Miscellaneous

BAF Shamsher Nagar, Ishurdi, and Lalmonirhat may be developed for emergency operations only. The infrastructure available should be maintained with other training units. Though the Chiringa airfield is almost grabbed by locals, BAF may take a drive to capture it if possible, as it would be a good alternative to Cox's Bazar and Chittagong in case of emergency or if any of those airfields become unusable. BAF may take over all the airfields so that those are not occupied by the land grabbers. BAF may take these airfields and establish schools, Colleges, and Universities.

10. Doctrinal implication

Airfields played a very vital role in the development of air power. Since its inception, airpower has been dependent on airfield support. Air-to-air refueling and a multi-fuel tank may have increased the endurance, or Vertical takeoff and landing capable aircraft may not require a conventional runway but there is no provision yet which can rearm or change crew up in the air. Enemy airpower can be destroyed by a successful attack on its airfield by any means. So the safety and security of the airfield are one of the top priorities of the concerned personnel.

More airfields provide the commander freedom of action and maneuver his flying machines. There is no alternative to an airfield to project military power through aircraft. National requirements, location of the airfield, and future force structuring should be kept in mind while developing a disused airfield.

10.1 Organizational setup

Organizational setup includes activities such as job distribution, coordination, and supervision, which are directed toward the achievement of organizational objectives. Proper utilization of disused runways certainly needs short-term and long-term organizational setup by BAF.

10.2 Short-term organizational setup

These are the structural reforms to achieve an immediate goal. The following may be required for this purpose:

- Set up a cell at Air Headquarters to identify the prospect of disused airfields.
- Take up the case to appropriate government agencies to hand over those airfields to BAF.
- Top-level government policymakers to be convinced and motivated about the importance of those airfields including benefits for the civil sector.
- To establish & approve small-scale TO&E for C&M Units to look after those airfields..Initiate repair works of those airfields by convincing the Civil Aviation Authority of Bangladesh (CAAB) [8] as far as possible.

10.3 Long-term organizational set-up

These are the structural reforms to achieve a long-term goal. Keeping in mind the 'Forces Goal -2030' the following may be done:

- a.Prioritize the airfields that BAF wishes to take over. Accordingly, establish infrastructures and start flying from those airfields.
- b. Take up the case for an extension of the runway wherever required. Local people should be well motivated to cooperate with BAF. Projects of BAF Shaheen School/College may help to motivate the local population.
- c.Initiation of new TO&E for bases.
- d.Acquisition of combat platforms that would be suitable to operate from those bases.

Above mentioned setup may look very highly ambitious. As a developing nation, the government has many priority sectors other than Armed Forces. The economic strength of the country may improve in the future. At that time government might have the capability to support this sector.

10.4 Financial implication

Construction of an airfield is very expensive and sometimes it costs a major amount of the yearly national budget of a developing country. Although this paper will not go into details on financial aspects, some endeavor was made to know the approximate cost to make an airfield. As per the Chief Engineer of CAAB, it varies on the requirement and type of runway we wish to make. As per rough estimation, it may take 50 core to 5000 core taka to prep a runway of 6000-8000 feet.

11. Conclusions

Air power is very effective as an instrument of war but is always limited by the need for complex, rigid operational and legal bases. More airfields are very good options for a commander to orchestrate his plan and equipment for the successful conduct of war. Airfields are the place where there is a runway with all new storage and maintenance facilities from where air power can be projected. So far most of the aircraft need a runway for takeoff and landing and BAF is likely to require an airfield in the foreseeable future for its operation. Bangladesh inherited a good number of airfields some of which are still in useable condition and others are damaged due to a lack of proper initiative and maintenance. Valuable items & accessories from these airfields were taken by interested parties. To augment the defensive capability of Bangladesh, these assets need to be protected. If BAF could take over and make some of those airfields operational, it would be beneficial in both peacetime and wartime for the country. In war, it would be difficult for men to attack more airfields, and also it would provide good options for us to attack the enemy. Civil aviation would also benefit

from those airfields. A greater number of airfields would give freedom of relief operation during natural calamity and disaster management. By 2030, BAF needs another 4-5 airfields to conduct its operational and training activities. Considering the present condition and location Cox's Bazar, Barisal, Sylhet, and Saidpur may be utilized. Patuakhaki, Tangail, Sarar Char, and Char Sulukia airfields may be used for the operation. More airfields will give BAF better training opportunities, reduce fuel costs, and reduce traffic congestion in joint airfields thereby promoting flight safety. It may be used for national requirements by reacting faster when required.

Declaration of competing interest

The authors declare that they haven't any known financial or non-financial competing interests in any material discussed in this paper.

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References

- [1] A framework of AI-Powered Engineering Technology to aid Altair Data Intelligence Start-up Benefits; speeding up Data-Driven Solutions. (n.d.). Retrieved September 13, 2022, from https://scholar.google.com/citations?view_op=view_citation&hl=en&user=lz613x4AAAAJ&citation_for_view=lz613x4AAAAJ:QIV2ME_5wuYC:
- [2] Bhuiyan, M. (2022a). A Synopsis of Practical Applications on Indigenous Research Framework and Methods of an Article by Lynn F Lavallée.
- [3] Bhuiyan, M. (2022b). Simulator Based Flight Training in BAF: It's Effectiveness on Operational Readiness.
- [4] Bhuiyan, M. H., & Faisal, M. (2020). A Contemporary Framework of Technical Challenges in Enactment of Smart Grid. 14(1), 8.
- [5] Bhuiyan, M. H., & Faisal, M. (2021). An Agenda of Advancing Health Monitoring System with a Contemporary Arrangement of Digitalized Operable Medical Kits. 15(1), 10.
- [6] Bhuiyan, M. M. H. (n.d.-a). Country-Specific Health Research Paper- Overview of Bangladesh and Addressing Dental Health Situation of Bangladeshis.
- [7] Bhuiyan, M. M. H. (n.d.-b). Lecture Note on Pakistan Colonial Administration.
- [8] Bhuiyan, M. M. H. (n.d.-c). Technology and Newer Innovations All Involving Science.
- [9] Bhuiyan, M. M. H. (2021). Case Study on Sri Lankan REM- "How Product Quality can Enhance the Purchasing Behavior of Real Estate Industry." In Case Study on Sri Lankan REM- "How Product Quality can Enhance the Purchasing Behavior of Real Estate Industry." <https://philpeople.org/>. <https://philpapers.org/rec/BHUTAO>
- [10] Bhuiyan, M. M. H. (2022). Integration of UAV with manned aircraft: Prospects and future options. LAP LAMBERT Academic Publishing. Copyright\copyright Majidul Haque Bhuiyan. Copyright.
- [11] Bhuiyan, M. M. H., Imam, S. T., & Rakhi, K. (2021). The Use of Modern Technology in English Language Teaching- ELT. <https://doi.org/10.13140/RG.2.2.29719.70560>
- [12] Clipping Path Service. (n.d.). Retrieved September 13, 2022, from https://scholar.google.com/citations?view_op=view_citation&hl=en&user=lz613x4AAAAJ&citation_for_view=lz613x4AAAAJ:aqlVkmm33-oC
- [13] Haque Bhuiyan, Md. M. (2022). DUAL MILITARY SOCIOLOGICAL ADVANTAGES TO CONFLICT WITH LIFESTYLE. International Journal of Engineering Technologies and Management Research, 9(6), 22–54. <https://doi.org/10.29121/ijetmr.v9.i6.2022.1171>
- [14] Imam, S. T., Bhuiyan, M. M. H., & Rakhi, K. (2021). An Existing Sculps Human Modelling- The Deviations in Dialect of Indian Standard English from the British Colonial Period to Present Times. <https://doi.org/10.13140/RG.2.2.19886.02886>

-
- [15] Islam Shawon, S. (2018). An Innovative Construction of Wheelchair for Handicapped Persons. *International Journal of Science and Qualitative Analysis*, 4(1), 13. <https://doi.org/10.11648/j.ijsqa.20180401.13>
- [16] Overparenting's Consequences in Bangladeshi Society Child's Intelligence, Growth, and Creativity. (n.d.). Retrieved September 13, 2022, from: https://scholar.google.com/citations?view_op=view_citation&hl=en&user=lz613x4AAAAJ&citation_for_view=lz613x4AAAAJ:Zph67rFs4hoC
- [17] Plateau, T. P., & Bhuiyan, M. M. H. (2017). A heuristic proposition of efficient copper-electrodeposited p-type thin film for CZTS solar cell. 2017 International Conference on Electrical, Computer and Communication Engineering (ECCE), 95–99.
- [18] Plateau, T. P., Islam, M. T., & Islam, N. (2019). Potentiostat Electro-Deposited Cuprous Oxide and Cupric Oxide Thin Films for Photovoltaic Use. *International Journal of Automotive and Mechanical Engineering*, 16(2), 6624–6633. <https://doi.org/10.15282/ijame.16.2.2019.11.0498>
- [19] Rahman, S., Majidul, M., Bhuiyan, H., Rakhi, K., & Bhuiyan, M. (2022). Social media alters Traditional Parenting Paradigm.
- [20] Rakhi, K., Tasfia, S., Majidul, M., Bhuiyan, H., Rahman, S., Sahib, S., & Bhuiyan, M. (2022). Symbolic Representation of Desire for Power in William Golding's "Lord of the Flies."
- [21] Zaman, H., Bhuiyan, M., Ahmed, M., & Aziz, S. M. (2016). A novel design of line following robot with multifarious function ability (p. 5). <https://doi.org/10.1109/MicroCom.2016.7522507>
- [22] 78th session of the Commission. (n.d.). ESCAP. Retrieved September 13, 2022, from <https://www.unescap.org/events/commission78>
- [23] Alexandra, L. A., & Lanteigne, M. (2017). New Actors and Innovative Approaches to Peacebuilding: The Case of Myanmar. In C. T. Call & C. de Coning (Eds.), *Rising Powers and Peacebuilding: Breaking the Mold?* (pp. 191–241). Springer International Publishing. https://doi.org/10.1007/978-3-319-60621-7_9
- [24] the Mold? (pp. 191–241). Springer International Publishing. https://doi.org/10.1007/978-3-319-60621-7_9
- [25] Bhattacharjee, K. (2022, August 7). Amid Taiwan crisis, Chinese Foreign Minister Wang thanks Bangladesh for following 'One China' policy. *The Hindu*.
- [26] <https://www.thehindu.com/news/international/chinese-foreign-minister-wang-yi-thanks-bangladesh-for-following-one-china-policy-during-taiwan-crisis/article65741941.ece>
- [27] Brownhill, L., & Turner, T. E. (2020). Ecofeminist Ways, Ecosocialist Means: Life in the Post-capitalist Future. *Capitalism Nature Socialism*, 31(1), 1–14. <https://doi.org/10.1080/10455752.2019.1710362>
- [28] Express, T. F. (n.d.). Maintaining and constructing airfields. *The Financial Express*. Retrieved September 13, 2022, from <https://thefinancialexpress.com.bd/views/opinions/maintaining-and-constructing-airfields>
- [29] Heierstad, G. (n.d.). 6: Foreign Affairs and Federal Actors in the Indian Democracy. *India's Democracies*, 135–157. <https://doi.org/10.18261/9788215026886-2016-07>
- [30] Islam, K. K., Fujiwara, T., Sato, N., & Hyakumura, K. (2018). Evolving and Strengthening the Cooperative Approach for Agroforestry Farmers in Bangladesh: Lessons Learned from the Shimogo Cooperative in Japan. *Sustainability*, 10(3), 617. <https://doi.org/10.3390/su10030617>
- [31] Minority rights at stake in Bangladesh. (2021, December 3). East Asia Forum. <https://www.eastasiaforum.org/2021/12/04/minority-rights-at-stake-in-bangladesh/>
- [32] Sindre, G. M. (2019). Adapting to Peacetime Politics? Rebranding and Ideological Change in Former Rebel Parties. *Government and Opposition*, 54(3), 485–512. <https://doi.org/10.1017/gov.2018.49>
- [33] Thayer, B. A. (2009). Considering population and war: A critical and neglected aspect of conflict studies. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 364(1532), 3081–3092. <https://doi.org/10.1098/rstb.2009.0151>
- [34] Webel, C., & Galtung, J. (Eds.). (2007). *Handbook of peace and conflict studies*. Routledge.
- [35] World Migration Report 2020. (2019). United Nations.
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