

CLIMATE CHANGE – CONFLICTS: IMPLICATIONS FOR ARMED FORCES

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"For centuries, wars have been fought for territorial expansion, ideological or religious dominance, and national pride. In the future, as climate change progresses and its effects become more pronounced, conflicts between states ...could increasingly take centre-stage."

- Byers & Dragojlovic¹

INTRODUCTION

1. Earth's climate is changing. Throughout the world today we are witnessing the growing frequency of natural disasters, ranging from floods, cyclones, storms, droughts, persistent forest and bush fires to earthquake and Tsunami. All these are disrupting the known configuration of societal set-up, causing dramatic consequences for those affected, entailing loss of property and livelihood, famine and life threatening situations. In future climate change will exacerbate resource scarcity; create mass population dislocations, and, ultimately fuel violent conflicts. Hence the above quotation rightly portrays the future challenges of climate change. The forces of nature are undoubtedly unpredictable, dangerous and devastating. They have far-reaching implications and heart-wrenching impacts.

2 By studying the link between various climactic factors and rates of historical violence, researchers have speculated that the climate trends we'll experience over the next century—hotter overall temperatures, more erratic rainfall patterns and a rising sea level—could make conflict and war more common in the future. Now, in the most comprehensive analysis of the work on climate change and armed conflict to date, a team from UC Berkeley and elsewhere has found that these climate trends are indeed likely to significantly increase the incidence of armed conflict. Their paper, published in *Science Magazine*, examined 60 studies to aggregate sets of

¹ Byers M. and Dragojlovic N. (2004). Darfur: A climate change-induced humanitarian crisis? Human Security Bulletin.

CFISS STRATEGIC HIGHLIGHTS

data on events spanning 8000 B.C.E. to the present that examined climate variables and incidences of violence in all major regions of the globe. For example, one of the source papers focused on temperature changes and violent crime in the U.S. from 1952 to 2009, while another looked at the number of conflicts in Europe per decade from 1400 to 1999 as a function of precipitation. Cross-comparing these studies with the same statistical methods revealed patterns that, when projected into future, suggest that by 2050 we could see 50 percent more instances of mass conflict due to the effects of climate change². In fact climate change is expected to be more severe than any previous climate shock since the end of the last ice age. Like the previous incidents in the history, in the 21st century also humanity is going face miserable climatic stresses³; which will portend scenarios of violent conflicts and wars.

3. Long-term trends such as desertification, rising sea-levels, and the spread of disease vectors, along with the increased frequency and severity of short-term natural disasters such as flooding and hurricanes, will disrupt economies, reduce the available supply of natural resources, and generate mass migration out of affected areas.⁴ Competition between haves and have-nots will intensify, and wars will be fought over dwindling food and water resources. Some areas may well become net beneficiaries of climate shifts, even as the absolute availability of resources declines, but this will only exacerbate global and intrastate inequalities and produce further friction.⁵ Environmental refugees fleeing uninhabitable areas will place strains on receiving communities, undermine the ability of those communities to provide basic services, and contribute to ethno-cultural tensions⁶. Developed countries will erect physical and virtual barriers to entry in order to protect their resources and way of life. In summing up their core predictions in a US Department of Defense report, Schwartz & Randall write, 'nations with the resources to

²Joseph Stromberg, "Climate Change to Increase by 50%", *Smithsonian Magazine* via [Zen-Haven](#), 4 August 2013.

³Chew, Sing C, *The Recurring Dark Ages: Ecological Stress, Climate Changes and System Transformation*, Lanham, MD AltaMira, 2007.

⁴Collier, Paul & Anke Hoeffler, 2004. 'Greed and Grievance in Civil War', *Oxford Economic Papers* 56(4): 563–595.

⁵de Soysa, Indra, 2002. 'Paradise Is a Bazaar? Greed, Creed, and Governance in Civil War, 1989–99', *Journal of Peace Research* 39(4): 395–416.

⁶Gleditsch, Nils Petter; Ragnhild Nordås & Idean Salehyan, 2007. 'Climate Change and Conflict: The Migration Link', *Coping with Crisis Series*. New York: International Peace Academy (<http://www.ipacademy.org>).

do so may build virtual fortresses around their countries, preserving resources for themselves. Less fortunate nations ... may initiate struggles for access to food, clean water or energy ... defense priorities shift and the goal is resources for survival rather than religion, ideology, or national honor⁷.'

4. Many scholars came up recently with insightful books on the geopolitical changes those will be triggered by the climate changes. The forecasts of these are close to becoming received wisdom. A flurry of new books with titles, such as "Global Warning" and "Climate Conflict" offer near apocalyptic visions – about a few scenarios depicting mass migration, water and food scarcity, resource scarcity, diseases and natural disasters etc- all of which are bringing in change in the geopolitical landscape of the world. Recently in his seminal work titled "Climate Wars: The Fight for Survival as the World Overheats", Gwynne Dyer mentions about waves of climate refugees, dozens of failed states and all-out wars. From one of such world's great geopolitical analysts comes a terrifying glimpse of the strategic realities of the near future, when climate change drives the world's powers towards the cut-throat politics of survival. His presentations are considered by many reviewers as prescient and unflinching.

AIM

5. In this backdrop the aim of this paper is to highlight the associated implications of climate change for the Armed forces including those for Bangladesh.

CLIMATE - CONFLICT: BACKGROUND

6. Global climate change is one of the most important challenges facing the international community today. Scientists have presented overwhelming evidence that climate change is indeed occurring, that human activity has contributed to the problem, and that it will have far-reaching implications for ecosystems, including human settlements⁸. As mentioned by Idean

⁷ Schwartz, Peter & Doug Randall, 2003. 'An Abrupt Climate Change Scenario and its Implications for United States National Security', *Global Business Network Report*. Emeryville, CA: Global Business Network.

⁸ IPCC Fourth Assessment Report (AR4), 2007.

CFISS STRATEGIC HIGHLIGHTS

Salehyan in his seminal work, "From Climate Change to Conflict?"⁹, that even the governments and corporations were once skeptical about climate research have come to the conclusion that something must be done to mitigate potentially disastrous consequences. Many scholars and experts are now predicting that climate change will exacerbate resource scarcity; create mass population dislocations, and ultimately fuel violent conflicts. These effects will be particularly acute in developing countries. Conflict over natural resources, whether driven by need or greed, has always been a part of human society. The past shows us that social tensions driven by past climatic change destroyed many advanced societies, such as the droughts which drove the collapse of early civilizations in Mesopotamia and Peru. The coming decades will see greater environmental degradation and increasingly disruptive climatic change at levels never experienced before in human history. Climate change is already creating hard security threats, but it has no hard security solutions. Climate change is like a ticking clock: every increase in greenhouse gases in the atmosphere permanently alters the climate, and we can never move the hands back to reclaim the past. Even if we stopped emitting pollution tomorrow, the world is already committed to levels of climate change unseen for hundreds of thousands of years. In the next decades, climate changes will have unprecedented impact on world's strategic security environment. If uncontrolled, climate change will have security implications of similar magnitude to the World Wars, but which will last for centuries.¹⁰ Writing in the *New York Times*, Hommer-Dixon(2007) argues that 'climate stress may well represent a challenge to international security just as dangerous-and more intractable-than arms race of the Cold War era'¹¹.

7. Chris Hunne, the British MP, while delivering a speech on 'The Geopolitics of Climate Change' in Royal United Services Institute, UK succinctly said that, "For many people climate change remains an indistinct threat. It is seen as something that is far-off-and far away. We hear something about polar bears, and long-term temperature trends, and subconsciously discount

⁹ Idean Salehyan, "From Climate Change to Conflict?- No Consensus Yet", Journal of Peace Research, Vol.45,no-3, 2008, Sage Publications, UK.

¹⁰ Tom Spencer, Nick Mabey, Chad Briggs, Elena Bellucci & Géraud de Ville, "Climate Change & The Military: The State of the Debate", Institute for Environmental Security - EU Office Rue de Stassart 131, 1050 Brussels, Belgium, 2009.

¹¹ Hommer-Dixon, Thomas F., 2007, "Terror in the Weather Forecast", *New York Times*, 24 April, 2008.

the threat. No wonder the illusion is a comforting one.....but the threat is much deeper.... And they both alarming and shocking.”¹²

CLIMATE CHANGE AND THE ARMED FORCES

Why Climate Change Matters for Armed Forces

8. Although it may be very difficult today to attain absolute certainty when it comes to climate change predictions, the scientific evidence that the climate is changing, and this will have significant effects, is increasingly well established. Climate change is now being metamorphosed from a boutique environmental concern to a first-order foreign-policy and national-security problem that is now being ranked alongside terrorism and the proliferation of weapons of mass destruction.¹³ Policymakers around the world now seem to accept that there is sufficient scientific data to conclude that the speed and magnitude of climate change in the 21st century will be unprecedented and this will pose daunting challenges to the planet.¹⁴ While enormous energy and time have been spent on establishing the scientific basis of climate change, earlier there has been less attention given to its security ramifications and how they would further impact the armed forces. To put the urgency of the issue in correct perspective General Gordon Sullivan mentioned with due lucidity that “People are saying they want to be perfectly convinced about climate science projections...But speaking as a soldier, we never have 100 percent certainty. If you wait until you have 100 percent certainty, something bad is going to happen on the battlefield”.¹⁵ So armed forces should not wait to be sure about the climate change, rather they should start preparing for change now. In fact there are at least two reasons

¹² Speech of Chris Hunne, MP on ‘The Geopolitics of Climate Change’ delivered in RUSI on 7 July 2011, London, UK.

¹³ Alan Dupont and Graeme Pearman, *Heating up the Planet: Climate Change and Security*, Lowy Institute Paper 12 (Sydney: Lowy Institute for International Policy, 2006).

¹⁴ Alan Dupont, “The Strategic Implications of Climate Change”, *Survival* 50, no.3, 2008, p.30

¹⁵ Marlene Cmons, Climate Change Nexus, *LiveScience*, 12 July 2013.

why it is important to understand how climate change could have an impact on and influence or implications military organizations.

9. First, military organizations are often expected to be at the forefront to various efforts to respond to the security implications of climate change, such as humanitarian crises, large scale disasters, social unrest and even border protection, protection of maritime resources, or areas etc.

10. Secondly, climate change is not a stand-alone environmental or ecological phenomenon. It also relates to, or has significant impacts on, other policy areas such as energy security, maritime security, geopolitics etc. All these will in turn significantly influence the military's operating environment in ways that have yet been fully understood by defense planners. Also, certain preliminary studies have argued that climate change is altering the nature of international relations- by pitting new power blocks against each other over, for example, the issue of carbon emissions.¹⁶

11. It may be mentioned that recent works fail to assess these. As of today no paper was written to highlight implications of climate change for the Armed Forces of Bangladesh. Hence in this backdrop subsequent sections of this paper dispassionately attempt to highlight the general and Bangladesh specific implications of climate change for the armed forces.

Climate Change and Consequent Change in the Geopolitical Landscape

12. In the late 2000s, the notion that climate change could trigger wars and geopolitical instability gained currency in military and intelligence circles. Security scholars gave credence to the possibility, think tanks were debating it and media gave another angle into climate story. For example, anticipated ice-free Arctic and thus, the chance to exploit arctic oil fields, will bring in

¹⁶ Paul G. Harries, ed *Climate Change and Foreign Policy: Case Studies from East to West*, London, Routledge, 2009.

actors like Russia, Canada, Norway and the USA, who all neighbor the Arctic.¹⁷ Given that an estimated 25% of the world's undiscovered oil and gas lies under the Arctic, the U.S. military may be called upon in the area to protect commerce, ensure freedom of the seas, and monitor adherence to legal decisions over territorial claims over the Arctic seabed, thereby preventing resource-grabs by other major powers¹⁸. Similarly, Europe may actually cool and dry as a result of global climate change, which would shorten its growing season and could make the EU more dependent on Russian energy and agricultural exports. Meanwhile, the small Russian population might have substantial difficulty preventing China from asserting control over much of Siberia and the Russian Far East as it goes in search of energy.¹⁹

Implications at the Strategic Level

13. Climate change is going to cause a redrawing of the physical map of the planet. As has happened during the past countless climatic shifts, some areas will be flooded, others will emerge from their shroud of ice and previously non-navigable sea lanes will open up. The difference this time is that this is an era of international law, in which political boundaries are closely and rigidly tied to physical ones. This is especially true when it comes to maritime borders which, legally, are often determined by coastlines. Climate change contributes to the retreat, advance and, in the extreme case of low-lying islands, complete disappearance of coastlines. As a result a host of global political, economic and security issues would emerge. The ownership of strategic sea lanes might come into dispute. Remote island-based military installations – and the right to locate them in those regions – could be lost. Nations could find that their offshore resources are now in international waters. Debates between neighbors over tiny rocks anchoring vast maritime claims could intensify. As such, rising sea levels will complicate maritime boundaries and escalate incidents at sea into a broader conflict. This scenario is most likely in

^{17 17} C.J. Chivers, "Russia Plants Underwater Flag at North Pole," New York Times, August 2, 2007. Doug Struck, Russia's Deep-Sea Flag-Planting at North Pole Strikes a Chill in Canada," Washington Post, August 7, 2007, A08

^{18 18} Jan M. Olsen, "Denmark Scoffs at Rival N. Pole Claims," Associated Press, August 14, 2007.

¹⁹ Douglass V. Johnson, "Global Climate Change: National Security Implications," U.S. Army War College Strategic Studies Institute Colloquium Brief, pg. 3.

the Bay of Bengal and South China Sea. As a consequence of this volatile mix, it is only natural that militaries in the region begin to focus more on their naval development. Malaysia took delivery of their first Scorpene submarine in early 2009, Singapore commissioned six Frigates and China launched its first aircraft carrier in 2012. Out of around 365 potential maritime boundary conflicts worldwide only 160 have been agreed. The UN Convention on the Law of the Sea (UNCLOS) is now the standard in international maritime law. So it is unfortunate that many of the assumptions of geographical and hydrological stability on which UNCLOS is based might be compromised by climate change having far-reaching implications for international order and the militaries. Not long ago, the norm for determining maritime boundaries in Europe was the 'cannon shot' rule, in which a state was given the maritime area that could be covered by a cannon shot from its shore (this is the origin of the three-mile limit).²⁰ The clear implication was that, if you could defend it, you could have it. It is possible that, in a chaotic future of geographical change, the same principle will be increasingly true again. This will lead to military rivalry between the nations; compelling the armed forces to redefine their area of operations.

BANGLADESH-SPECIFIC IMPLICATIONS FOR HER ARMED FORCES

Vulnerabilities and Challenges

14. Bangladesh as one of the most disaster-prone country in the world due to climate change is expected to experience warmer temperatures, increased precipitation (in the northern islands), decreased precipitation (in the southern islands), and changes in the seasonality of precipitation and the timing of monsoons. These phenomena could increase the risk of either droughts or flooding, depending on the location, and could also reduce biodiversity, lead to more frequent forest fires and other natural disasters, and increase diseases. It's clear, then, that climate change poses a significant threat to Bangladesh's internal stability. Its direct and indirect effects threaten to inflame domestic tensions, especially if the negative effects reinforce social differences, whether they are ethnic or religious. Bangladesh's coastal and hilly areas, where

²⁰ Lawrence Schafer, 'The cannon shot rule', *Legal Aspects of Contemporary Marine Fisheries*, 1997

ethnic and religious groups are already economically disadvantaged are perhaps the most susceptible to climate change-induced unrest.

15. A research undertaken by Safeworld²¹ and Bangladesh Institute of International and Strategic Studies (BISS), shows that socio-political pressures are increasing as more and more people migrate due to pressures brought on by an increase in the frequency and intensity of flooding, rising water salinity and loss of land. This in turn may lead to growing insecurity and instability in the regions of origin, transit and destination, as competition increases over resources such as water and land and people form groups prepared to use violence to defend their interests. In Bangladesh, this violent unrest may have an effect on the stability and internal security of the country.²² Additionally environmental stresses combined with socioeconomic factors will probably further weaken the state's ability to cope with multiple sources of instability and giving rise to extremist threats in the country.²³ One must remember that any sort of destabilization along a South Asian border is extremely dangerous because the region is prone to conflict and nuclearised.²⁴ Hence all these will affect the international security. That's why we see the interest of big powers in our part of the world.

16. Although climate change has not yet led to any high level of threat or conflict, Bangladesh is considered to be a frontline state in the face of climate change challenges. It is ground zero for the effects of climate change and security implications they present in Bangladesh. With due lucidity Maj Gen. Muniruzzaman mentioned that "In Bangladesh climate change is not a theory, a story or a concept, it is a way of life. As I write, lives are being lost to rising seas, water shortages and the resulting diseases. Gradual and large scale displacement of people is taking place, and every day the threat is increasing."

²¹ SafeWorld is an NGO working on climate change issues.

²² Thomas Ansorg and Thomas Donnelly, "Climate Change in Bangladesh: Coping and Conflict", *European Security Review*, no.40, September 2008.

²³ Ibid

²⁴ Isabel Hilton, "Militarising Climate Change", collected from Internet.

17. While carrying out research on this paper the writer could find a number of studies by different countries and in every such report the focus is on Bangladesh. Each of such studies tried to show how sea level rise, melting of Himalaya or Arctic, increased frequency of natural disasters will create millions of climate refugees and affect their livelihood and well-being in Bangladesh. The irony is that while the world security and military experts are focusing constantly on Bangladesh, we have not yet taken the issue seriously and largely remained indifferent towards this apocalyptic future scenario.

18. According to experts, 'the impacts of climate change, particularly the growing risks of natural disasters and the damaging effects on development for already fragile states, may increase the pressure for military forces to participate in growing numbers of humanitarian assistance, disaster relief and evacuation operations.' This is especially true in Bangladesh. All this means that the military must be prepared to confront the effects of climate change – especially disaster response capabilities, which could become overwhelmed. This will require changes in national security strategy and doctrine, particularly those related to intra-military (joint), military-military, and military-civilian operations. A new strategy should be designed to contend with environmental security vulnerabilities, including physical security for basing and the threat to command and control in the event of a cataclysmic natural disaster. Procurement must be aligned with the new strategy and the overall importance of environmental security missions. With this in mind, particular emphasis should be placed on air transport, logistics and coordination, medical support and expert personnel. In addition, the armed forces would do well to strengthen bilateral and multilateral relationships with countries that can complement and bolster Bangladesh's forces in the case of major disasters.

Strategic Shift in the Security Discourse

19. It is easy to equate "national security" or "global security" with military defense against rogue states and terrorism, but a leading U.S military expert says that view is far too narrow- and could lead to catastrophe if not changed.²⁵ And change has to be on account of threats

²⁵ Gregory D. Foster, "A New Security Paradigm", *World-Watch*, January-February 2005.

emanating from the climate change. In future climate change will be the threats²⁶; and capabilities to change the climate will be the powers.²⁷ Hence in the security discourse of nations climate change is going to have definitive and most significant bearing for the nations. Given the lack of serious research in the subject and the "when it happens we will see" attitude of the military, it is doubtful if our armed forces are prepared to deal with eventualities that may arise due to climate change. Transcending the traditional interpretations of security threats natural disasters, food security, pandemics, flood, water scarcity, resource conflict etc are going to be the main topics of security concern. As a nation on the zero-line we as a nation cannot afford to ignore this and continue with age-old ideas of security just mainly focusing on conventional or traditional threats. The challenge for the Armed Forces of Bangladesh will be to come out of the classical teachings of maneuver, firepower, operational tempo, offense vs defense, control of seas etc and reorient ourselves with the invading threats of natural disasters, effect of sea level rise or flood and other vagaries of climate change related sufferings of our people.

Implications Due to Change in Geo-political Landscape

20. The melting of Arctic ice and consequent sea-level rise is going bring in un-precedent change in the geopolitical landscape of the world; and these are going to change the maritime configuration of the world, leading to revival of a number of maritime disputes and implications for United Nations Convention on the Law of the Sea (UNCLOS). Disputes over claim in the

²⁶ Spencer Weart, "Environmental Warfare: Climate Modification Schemes", *Global Research*, December 5, 2009

²⁷ The Author has intentionally avoided discussing about Climate Warfare or Climate Engineering. The cliché 'All is fair in love and war' is going to remain true for ever. Use of Atom Bombs is unethical, but it was used. And hence there is no guarantee that in future mankind will not resort to different or peculiar type of ideas, like Weather Warfare, Climate Warfare etc. Hence, S. Halacy, the author of book *The Weather Changers* said, **"If man can modify the weather, he will obviously modify it for military purposes. It is no coincidence that the U.S. Army, Navy, Air Force and Signal Corps have been deeply involved in weather modification research and development. Weather is a weapon, and the general who has control over the weather is in control of an opponent less well armed... The idea of clobbering an enemy with a blizzard, or starving him with an artificial drought still sounds like science fiction. But so did talk of atom bombs before 1945."** Daniel S. Halacy Jr.,(*The Weather Changers*, Harper & Row, 1968.)



CFISS STRATEGIC HIGHLIGHTS

Exclusive Economic Zones (EEZ) and Continental Shelf will be more. Such cases will emerge in the Indian Ocean and South China Sea. Hence, there will new polarization between the navies of the world. Our Armed forces will be caught between the rivalry of great nations, because the grass which suffers when the elephants fight. So we need to study these developments very carefully.

Doctrine and Role of the Armed Forces

21. In the aftermath of natural disasters or in the face of impending climate change induced threats the concepts of pitched battles, out-maneuvering the enemy, fleet-in-being of the naval fleet or the overarching demand for air-superiority will become meaningless, if not useless; and there will be more demand for proactive, timely and appropriate response of the Armed forces for HADR, Casualty evacuation, medical support, flood evacuation etc. International efforts will be there for Stabilization Operations, Search and Rescue, Disaster Relief or Reconstruction Operations. As such, in the face of such changed realities role and doctrines of our forces will have to be changed.

22. War fighting as a whole is likely to be affected by climate change and this would demand for an altered perspective on certain military doctrines. For example, like other navies we will need to revisit our strategic interests and mission types in view of the changing geo-politics in future. At the tactical level, for example, changing temperatures will affect hydrological conditions, affecting Submarine/sonar operating conditions. Changing temperatures may also affect air temperatures/local weather conditions, which in turn could possibly affect radar operations, helicopter operations, communications, etc. Due to climate change, campaign timing, Fire Plan logistics plan etc will have profound implications at the operational level of war.

Training, Force Structuring and Procurement

23. Ours forces are trained and equipped for facing the conventional threats. Where the enemy, terrain, their military prowess defined the thrust areas of our training, procurement and force

structuring. Like most of the militaries we are structured in two conventional ways. Our focus is either towards large-scale continental or naval war against a foreign aggressor, or geared to maintain domestic security and stability. The former requires a large standing military with ORBAT²⁸ that rely heavily on infantry brigades and strike forces (army), frigates, submarines, destroyers and amphibious capabilities of navy, and tactical fighters and medium to long range bombers (air force). The latter structure meanwhile would generally require a large army that relies on the use of Special Forces, and deployment of intelligence, police etc. Now the enemy is natural disaster, or its affect or the impact of climate change, or the enemy is flood or the sea level rise. All these will require significant changes for training and force structuring. For example, more engineering, medical, signal corps will be needed for army. Navy will require more amphibious capable ships, and ships with higher sea-keeping and longer endurance for HADR operations. Air Force will need more general purpose helicopters or transport planes as opposed to conventional fighters. Due to climate change known areas or communications zones or Lines of Communications (LoC) will change. For example due to melting of Himalayan glaciers and snow deployment of Indian and Pakistani forces in the Siachen Glacier need to be reconfigured. Apart from this, excessive melting of snows would make troop movement extremely dangerous, helipads crumble and logistics become a nightmare, calling for newer tactical and strategic approaches. Similarly increased flood and draught in Bangladesh can bring in the age-old practiced systems of the army, and will need renewed thinking on these. Additionally, in such operations military will require larger understanding of humanitarian principles and need to have an organizational culture and ethos adjusted to tasks requiring patience, restraint and flexibility.²⁹ In addition, the civil-military interface during disasters can quickly become contentious if the proper mechanisms and training are not in place.³⁰

²⁸ ORBAT- means 'Order of Battle' i.e. the composition of forces of the military forces.

²⁹ Robert Egnell, "Between Reluctance and Necessity: The Utility of Military Force in Humanitarian and Development Operations", *Small Wars and Insurgencies*, Vol.19, No.3, 2008, p.3.

³⁰ Damon P. Coppola, *Introduction to International Disaster Management*, Boston, MA, Elsevier, 2007, p.342.

Research and Development

24. All the points of this paper direct us to one central point, that our armed forces needs to be better informed. This is possible through appropriate research and development schemes. Already world's armed forces are studying this and taking or thinking to take appropriate measures. Lest we are caught by surprise we need to consider the subject with utmost importance and resolve. We also need to think how the military can be part of the solution to climate change rather than part of the problem by reducing their own foot print.

CONCLUSSION AND RECOMENDATIONS

25. Climate change is now becoming all-pervasive issue; and will touch upon the whole rubric of society and domain of civilization's sustenance. May be within a short span of time, within the time frame 10 to 20 years, the classical concepts of enemy-centric war-fighting, attrition or maneuver based operational approaches will give way to new paradigm of climate-conflict nexus. Considering this reality the world's armed forces are trying to think out of the box and trying to reevaluate their standing on the issue. They are thinking to restructure their force, redefine their doctrinal teachings and shape-up their other related aspects. We can't remain naive on the issue of climate change and its implications for armed forces. As a ground-zero nation we need to wake up, lest we are caught with total surprise and face the obsolescence of our forces, concepts and doctrines.

26. In view of the states points of this research paper followings are recommended for Bangladesh:

- a. Much awareness may be created about the upcoming threat of climate change and conflict nexus through different measures.
- b. For formulating a long-term perspective plan on required adjustment/transformation strategy for the armed forces different research schemes may be undertaken at the country level, forces' headquarters level and formation level.



CFISS STRATEGIC HIGHLIGHTS

- c. “Climate Warfare and Bangladesh Perspective” may be a subject of research at the Staff College, War College and National Defense Level courses.
- d. In view of sea level rise and consequent submergence of coastal areas necessary plan may be made for relocation of our coastal bases of Army, Navy, Coast Guard and BGB. If required, in view of perceived threats our existing plans may be revised.
- e. Similar studies will also be required to understand the implications melting of Himalayan glacier and consequent increased frequency and dimension of floods in our area of operation, so that we are better equip to visualize the our future Lines of Communication, logistic arrangements, engineering facilities, requirement of water crafts etc.
- f. Ministry of Environment, Dhaka University and Armed Forces Headquarter may time to time arrange seminars and workshops, so that information is dug out of these sessions for the benefit of the country and our armed forces.

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 CFISS STRATEGIC HIGHLIGHTS

War College, Lahore. He is an alumnus of National Defense College, Dhaka. He received Chancellor's award in MBA from Trinity University, UK. He is married and blessed with two children. His son, Aftab, is a student of BBA and daughter, Afsana, is a student of MIST. His wife, Ms Shireen is a house-wife. His hobbies are gardening, reading books, photography and travelling.