

CAPABILITY ENHANCEMENT OF BANGLADESH ARMY TO PERFORM
ENVIRONMENTAL PROTECTION AND REFUGEE CONTROL

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ABSTRACT

CAPABILITY ENHANCEMENT OF BANGLADESH ARMY TO PERFORM ENVIRONMENTAL PROTECTION AND REFUGEE CONTROL, by Major Mohammad Forhan H. Rahman, 80 pages.

Over the past two decades, Bangladesh's remarkable economic growth and development has been constantly challenged by various non-traditional security (NTS) threats. Out of these NTS issues, Rohingya refugee crisis and environmental hazard are considered two major threats for the nation in which concerned governmental organizations and law enforcement agencies are overwhelmed by the sheer scale of the events. As a solution to this issue, the Government of Bangladesh has the option to employ the Army to assist civil administration in combating these two NTS threats. Bangladesh Army, in addition to their primary role to maintain country's territorial integrity and national sovereignty, regularly performs its secondary role to aid the civil administration. However, the Army has very limited contributions in the fields of refugee control and environmental protection, most of which are not focused and organized. This thesis aims to identify new non-traditional roles for Bangladesh Army in the fields of environmental protection and refugee control to assist the civil administration.

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ACRONYMS

BA	Bangladesh Army
BGB	Border Guard Bangladesh
EU	European Union
GOB	Government of Bangladesh
MOOTW	Military Operations Other Than War
NATO	North Atlantic Treaty Organization
NGO	Non-Governmental Organization
NTS	Non-Traditional Security
SAF	Suitability, Acceptability, and Feasibility model
SRQ	Secondary Research Question
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command

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CHAPTER 1

INTRODUCTION

Background of the Study

Bangladesh, located in the largest deltaic region of the world, is a South Asian country with an enormous 16.3 million population. The steady 6-7 percent GDP growth for the past five years has lifted the nation's status to a lower-middle income country (gross national income per capita of \$1,677). With stable growth, the country aspires to become an upper middle-income nation (gross national income per capita more than \$3,896) by the end of 2021 (Bangladesh Sangbad Sangstha 2019). Although the geographical presence of India overshadows the nation, Bangladesh negates any type of traditional threat from its large neighbor by maintaining a harmonious relationship founded by strong diplomacy and economic cooperation. The threat from a 210 mile stretch of border with Myanmar is also limited with only occasional border violations (Ataullah 2018). However, over the past two decades, the country's growth and development are constantly challenged by a number of non-traditional security (NTS) threats.

The NTS risks that dominate the current security situation in Bangladesh are mostly related to the environment, food, water, energy, cyber, and economic security (Jubaer 2018). Additionally, terrorism, drug trafficking, political instability, and the Rohingya refugee issue often challenge internal security. Mr. Sabbir Ahmed Jubaer, a research associate at the Bangladesh Institute of Peace and Security Studies identifies terrorism, the Rohingya refugee crisis, environmental security and disasters, cyber security, and financial security as the major five NTS threats for the nation in 2018

(Jubaer 2018). However, out of these five threats, environmental security and the Rohingya refugee crisis clearly stand out to be the two most dangerous NTS issues crippling the nation's economy (Alam 2018). Although, governmental organizations and law enforcement agencies are specifically dedicated to combat these issues, often they are overwhelmed by the sheer scale of the threats.

Bangladesh ranks as one of the most disaster-prone and environmentally vulnerable countries of the world (Sobhan 2012). Moreover, the country is ranked 179th out of 180 countries of the world in the environmental performance index (Environmental Performance Index 2019). Deforestation, soil erosion, global warming, and water and air pollution are great threats to the security of Bangladesh. The long-term effects of environmental hazards can lead to regular environmental disasters like cyclones, storms, floods, and droughts. The environmental issues also affect the fertility of the arable land, livestock, fish, and pasture, which has a direct impact on the health and productivity of forests, incidences of pests and diseases, biodiversity, and ecosystems (Ataullah 2018). Thus, the environmental vulnerability of Bangladesh may have severe consequences on food and water security in the near future. Although in recent years the government has taken some important steps, the response towards protection of the environment remains dangerously insufficient due to poor implementation of law, inadequate infrastructure, lack of monitoring and widespread corruption.

The Rohingya refugee crisis is one of the long outstanding humanitarian crises of the world. Since the 1990s, Bangladesh hosted the persecuted Rohingya minorities from Myanmar. The extreme violence of the Myanmar Army in the Rakhine province in 2017, forced 90 percent of the Rohingya population to flee into Bangladesh. As of August

2018, Bangladesh has accommodated more than 960,000 Rohingya refugees in densely populated refugee camps (Furcoi 2018). At present, Rohingya Relief and Repatriation Commission under the Ministry of Disaster Management and Relief, the Ministry of Health and Local administration are trying to control the refugees. Despite an all-out effort, the Government of Bangladesh (GOB) is overwhelmed by the humanitarian, environmental, social, and demographic impact of the huge number of refugees in the southeastern region of the country (Alam 2018). As of March 2019, the GOB, with assistance from international aid, spends almost \$300 million per month to tackle the massive humanitarian crisis (Radio Free Asia 2019). Moreover, the historical analysis of Rohingya persecution in Myanmar and the slow diplomatic progress to repatriate the refugees indicates that the Rohingya refugee crisis will remain a long-term challenge for the Government of Bangladesh.

Undoubtedly, environmental protection and refugee control have been a significant NTS threat for Bangladesh, having a long-term effect on internal stability, food, and water security. They are also large barriers to the 2021 economic goals of the government toward achieving the status of an upper middle-income country. As such, both threats need to be addressed immediately with an all-out effort by the government to achieve sustainable national development and stability. Unfortunately, the magnitude of these threats has gone beyond the capacities of the concerned departments of the government. Hence, as a dependable and efficient resource, the government has the option to employ the Bangladesh Army (BA) to combat environmental threat and Rohingya refugee crisis.

The BA was founded during the bloody war of liberation in 1971. Since then, the BA has gone through the process of expansion and modernization to enhance its operational efficiency. Over time, the organization has proved to be the most dependable and effective asset of the government due to its outstanding contributions in safeguarding the nation from both external and internal threats. So far, the BA has made commendable contributions to internal security operations, counter-insurgency operations in the Chittagong Hill Tracts, and United Nations (UN) peacekeeping operations. Although the primary role of the BA is to maintain the country's territorial integrity and national sovereignty, the organization regularly performs its secondary role as an aid to the civil administration. Most of the assistance provided was aimed at countering NTS threats generated by natural or man-made disasters and internal instability. Additionally, the BA takes part in various nation building activities, including the development of key infrastructure across the nation by harnessing its available resources. However, considering the broad spectrum of NTS threats currently faced by the nation, the BA addresses very few of these challenges.

More importantly, the BA appears to be one of the best options for the government to enhance its national security against the critical NTS threats for a number of reasons. First, the Army has the leadership, motivation, training, and discipline to perform any challenging role effectively. Second, the BA has the infrastructure, mobility, intercommunications, and engineering skills necessary to counter NTS threats. Third, BA units are evenly spread across the country including the remote jungle and hilly areas. Despite having numerous capacities, the Army has limited contributions to the environmental protection and refugee control role.

At present, the BA stands as one of the best options for the government to deal with the immediate threats emanating from environmental degradation or a refugee crisis. In order to assist the civil authority, the BA should remain at high readiness to combat environmental hazards and refugee crises in the near future. Therefore, there is a necessity for the BA to enhance its capabilities in these two roles. As such, the purpose of this study is to identify new tasks for the BA in the fields of environmental protection and refugee control in the present security environment, which will assist the GOB in countering these major threats.

Research Questions

Primary Research Question

After considering the problems described in the preceding pages, this thesis answers the primary question: “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control role?”

Secondary Research Questions (SRQ)

1. SRQ-1: What are the ways (broad actions) BA can perform environmental protection and refugee control role?
2. SRQ-2: Which environmental protection and refugee control tasks BA can perform at present?

Assumptions

To develop this thesis in the correct direction and fulfil its purpose, the author assumes that the existing NTS threats will exist at their present scale for the next five years. In addition, the author also assumes that the geo-strategic environment in the

region will remain unchanged with no major traditional threats from Bangladesh's neighbors.

Important Definitions

Non-Traditional Security (NTS). Richard H. Shultz describes NTS as complex, involving a myriad of threats (internal, regional, and transnational), wherein a large number of actors are involved (governmental and non-governmental), where violence is generated not only by conventional physical force, but by economic, environmental, and social forces.

Environmental Protection. Policies and procedures aimed at conserving the natural resources, preserving the current state of natural environment and, where possible, reversing its degradation (BusinessDictionary.com 2018, s.v. "Environmental Protection,").

Refugee Control. Rohingya refugees in Bangladesh refers to the refugees from Myanmar living in Bangladesh. The control of refugees is defined as limiting movement of the refugees within designated areas, reducing the humanitarian and security hazards, and assisting the government to create conditions to safely repatriate the refugees.

MOOTW. The acronym means "military operations other than war." This is a doctrinal term used by the BA to explain military functions in aiding civil authorities. The doctrine includes the military's role to aid the civil administration during establishing internal security, law and order situations, managing disasters and natural calamities, and participating in nation development activities.

Scope

This study will be limited to two non-traditional security roles of the BA, i.e., environmental security and refugee control. Each role shall be explored from comparative studies of contemporary armies. Subsequently, considering the existing security environment, the relevance of these roles shall be studied and analyzed.

During the development of this thesis, the author shall review the existing law and policies of the GOB, which are relevant to military employment in NTS roles sourced from the Bangladesh Army Digital Library. The author shall also carry out a study of American and non-American sources available in U.S. libraries accessible through the Combined Arms Research Library. No efforts were made to collect data physically outside the Command and General Staff College and Combined Arms Research Library. The data collection efforts were limited to web-based documents and documents received from credible sources from Bangladesh. The author also did not conduct a survey or interviews of any key personalities in the United States and Bangladesh.

Limitations

First, NTS threats may rapidly evolve in twenty-first century. Hence, the study must be conducted based on existing critical NTS threats considered by the nation. Second, the long-term effect on the military culture of the BA due to added NTS roles has not been considered. It will require a comprehensive study to identify the cost-benefit analysis from adopting the new roles by the Army. Third, possible complications and effects in civil-military relations with other law enforcement agencies and departments of the GOB cannot be identified. Identification of these effects require additional study and interviews of experienced personalities.

Delimitations

The comparative study will be generally restricted to the United States, European Union (EU), and Indian Army. However, examples of other armies shall only be highlighted for broadening the perspective. Only NTS roles in the fields of environmental protection and refugee control performed by the various armies will be considered.

Significance of the Study

The study is focused to validate the new NTS roles in the context of existing security environment. If found feasible and suitable, the BA would be able to better contribute to the national security in peacetime. Consequently, the BA would prove itself to a be more productive organization.

Summary

In this chapter, the purpose of the author's thesis is clearly explained. In accordance with this purpose. The author listed primary and secondary research questions, which shall be answered during the process of this research. Relevant assumptions, limitations, and delimitations were also incorporated into the latter part of this chapter. The next chapter highlights important findings from the body of literature to elaborate the environmental and refugee control role of the BA by studying contemporary armies and relevant policies.

CHAPTER 2

LITERATURE REVIEW

The purpose of this chapter is to provide necessary data to answer the research questions. In doing so, this chapter initially analyzes the experiences of the BA in aiding the civil administration in environmental protection and refugee control. Subsequently, the chapter shall review the relevant literatures on the national law and policies to identify the range or degree of military involvement permitted by the constitution to address the NTS threats. Finally, the chapter will explore the roles performed by the U.S., EU, India, and other armies in these two fields. The literature was sourced from Bangladesh Army Digital Library, American and non-American sources available in U.S. libraries accessible through the Combined Arms Research Library and open source web-based documents. The literature reviews under these broad three headings will guide the author to identify possible tasks in combating environmental hazard and refugee crises. At the end of this chapter, the author summarizes the findings from all reviews of literature in this chapter.

Current Non-Traditional Roles Performed by BD Army in the Fields of Environmental Protection and Refugee Control

The primary mission of the BA is defending the nation's territorial integrity against external attack. However, three out of the seven roles of the BA focus on supporting the civil administration when necessary (table 1). Accordingly, the BA has made commendable contributions during any natural or manmade disasters like floods, cyclones, earth-quakes, building collapses, and accidental fire incidents, etc. Besides, the Army has contributed to number of nation-building activities which includes preparing

national identification cards, machine readable passports, road construction, flyovers, underpasses, etc. At times, the Army also augments law enforcing agencies to establish law and order during parliamentary elections, political turmoil, and terrorist incidents (Sajib 2016). Despite enormous contributions to support the civil administration, the BA has been relatively less active in the fields of environmental protection and refugee control.

Table 1. Role of Bangladesh Army
<ul style="list-style-type: none"> • To defend sovereignty and territorial integrity • To plan and develop the mobilization of civil resources in support of land operations • To aid the civil administrations in maintenance of internal security and law and order situation, when assigned • To assist the civil administration in managing the disasters and natural calamities, when requested • To take part in nation development activities as and when asked for • To support United Nations Peacekeeping Operations • To take part in coalition operations with other nations if authorized by the parliament

Source: Bangladesh Army, “About Bangladesh Army,” 5 December 2018.
<https://www.army.mil.bd/About-Bangladesh-Army> (accessed August 10, 2018).

Environmental Protection

The Bangladesh Army, due to its inherent positional advantage, can easily assume an environmental protection role. However, the army has been given few responsibilities to protect the environment in the past. Although few of the nation development projects were related to protecting the environment (table 2), there has been no organized initiative by the government to employ the army to combat the increasing environmental hazards. Within the organization, the BA conducts environmental awareness campaigns

by organizing annual tree planting programs throughout garrisons in the country (Inter-Services Public Relations 2018). Recently, the BA has taken on the responsibility of preserving Swarno Deep, an island designated for military training. The environmental campaign on the island included animal husbandry, pisciculture, and afforestation projects aimed at providing the local people a better life (The Independent 2017). A recent initiative to promote renewable energy has also been noticed in the remote Army installations. Unfortunately, considering the alarming threat due to the environmental hazard, the BA neither within nor outside the organization plays a sustained role to protect the nature.

Table 2. Nation Development Projects Related to Environmental Protection	
Completed	Ongoing
<ul style="list-style-type: none"> • Dhanmundi Lake Development Project • Cox's Bazar - Teknaf Marine Drive Project • Geo - Bag Dumping • Scour Protection of Meghna Bridge and maintain of Meghna and Gumti Bridge • Protection of Ramgoti and Komolanagar Upazilla and adjacent areas under Lakshmipur district from the continuing erosion of Meghna River Project (Phase 1) (3.5 km) 	<ul style="list-style-type: none"> • Integrated Development of Hatirjhil area including Begunbari Khal • Drainage improvement of Dhaka-Narayangan-Demra (DND) • Bank protection work of Matamuhuri River, Flood Control and Drainage improvement project for removal of drainage congestion in Noakhali Area

Source: Armed Forces Division, “Completed and Ongoing Projects,” 3 December 2018. <https://www.afd.gov.bd/activities/completed-and-ongoing-projects.html> (accessed August 12, 2018).

Refugee Control

Bangladesh has been regularly affected by the influx of Rohingya refugees since late 1970s. The systematic persecution of Rohingya minorities in Arakan province led tensions on the border in 1978, 1991, 2012, and 2015. However, the largest refugee exodus started in August 2017, which still is ongoing (Hunt 2017). At present, the BD government is overwhelmed with the presence of more than 960,000 refugees in the southeastern part of the country (Furcoi 2018). In collaboration with United Nations High Commissioner for Refugees, United Nations International Children's Emergency Fund, International Organization for Migration, World Health Organization, World Food Program, NGOs, and international aids, the government hosts the enormous number of refugees in densely populated camps. Nevertheless, the economic, environmental, and demographic impact of refugees places tremendous strain on all departments of the administration (Chowdhury 2018).

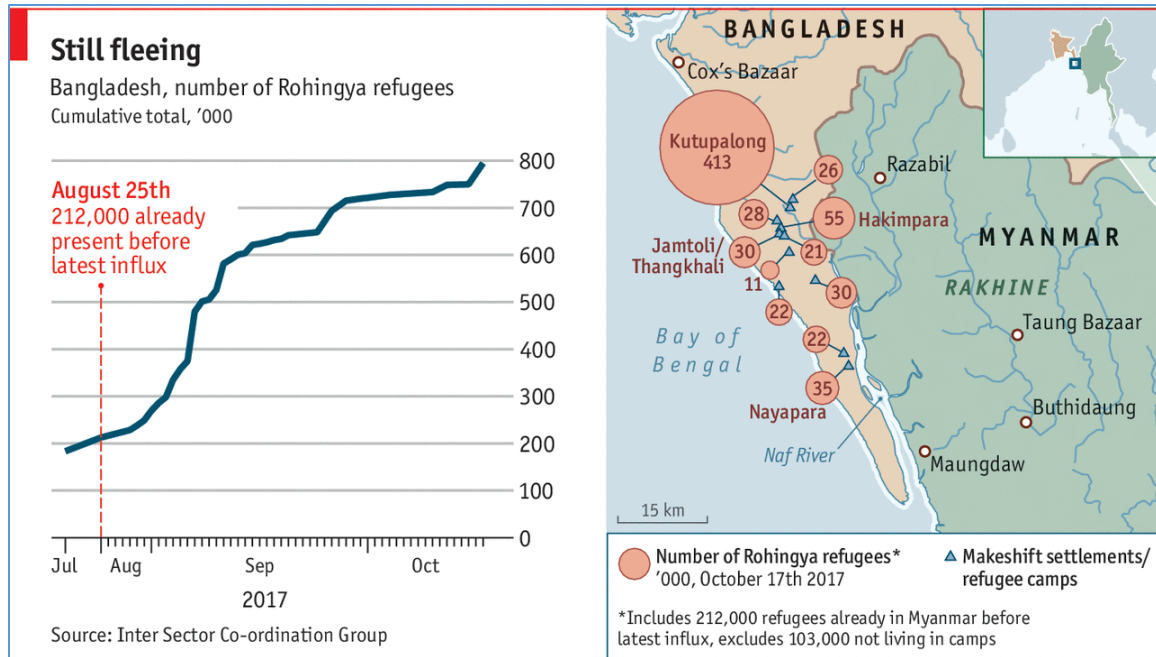


Figure 1. Map of Refugee Camps in Southeastern Region of Bangladesh

Source: The Economist, “The Flow of Rohingya Refugees into Bangladesh Shows No Sign of Abating,” 29 December 2017. <https://www.economist.com/graphic-detail/2017/10/19/the-flow-of-rohingya-refugees-into-bangladesh-shows-no-sign-of-abating> (accessed August 14, 2018).

In such a scenario, the government tasked BD Army on 23 September 2017 to assist in managing the refugee crisis (ISPR 2018). As of November 2018, the army deployed approximately two thousand troops to perform relief and security operations. The army plays a major role in distributing relief collected from the governmental and non-governmental organizations. The local Army formation is also tasked to store relief materials to be distributed in times of need. Additionally, the army operates field medical centers, supplies pure drinking water, and constructs roads, shelters, and sanitations. An army detachment also carries out bio-metric registration of the refugees (South China Morning Post 2018). As a part of security function, a joint task group formed of members

of the army, Border Guard Bangladesh (BGB), police, and Ansar (paramilitary forces) provide continuous surveillance of the camp areas against any threat of drug smuggling, terrorism, and illegal trafficking in the region (Brigade Major 2018).

National Laws Related to BD Army Performing NTS Roles

The BA, since its inception, has been performing “aid to the civil power” functions based on the British colonial code. Like any other democratic nation of the world, the BA is subservient to the democratically elected government. The government employs the armed forces based on the Armed Forces (Emergency Duties) Act, 1947, (Ministry of Law, Justice and Parliamentary Affairs 2018), which says:

(1) The 1[Government] may, by notification in the official Gazette, declare any specified service to be a service of vital importance to the community: Provided that such notification shall remain in force for one month in the first instance, but may be extended, from time to time, by a like notification.

(2) Upon a declaration being made under sub-section (1) and until it is rescinded, it shall be the duty of every person subject to the 2 [Army Act, 1952, or the Air Force Act, 1953, or the Navy Ordinance, 1961], to obey any command given by any superior officer in relation to employment upon or in connection with the service specified in the declaration; and every such command shall be deemed to be a lawful command within the meaning and for the purposes of the said Acts or Ordinance.

Accordingly, the use of troops in aid of the civil power for the prevention or suppression of disorder is a function of the Government, and, whenever possible, the Government should authorize their employment. In emergencies, and when time does not permit of a reference to the Government, a local civil authority may also make a request directly to the nearest military. Local military authorities will comply with such requisitions and military support will always be given. But whenever troops are called out at the request of a local civil authority, the latter should report the fact to the Government

without delay. In this regard, military troops should not be employed in aid of the civil power for periods more than ten days without the sanction of the Government. However, if, in the opinion of the Government, such a state of affairs has arisen that the safety of the community and the existence of the Government and its authority are endangered, at that time the GOB under section 2(1) of the Armed Forces (Emergency Duties) Act, 1947 may decide to entrust any vital services to military administration and control (Bangladesh Army 2015).

According to legal instruments and policies, the government can call upon the army for assistance for any type of national emergencies. When NTS threats pose danger to the community and citizen of the nation, the government has the constitutionality to employ the BA at any time. Consequently, the BA is obligated to perform the responsibility with all-out efforts based on the existing capability.

Comparison Study of Other Armies Performing Non-Traditional Roles

Armies of contemporary armies perform significant roles in environmental protection and refugee control. The researcher shortlisted U.S., EU, and India for carrying out comparative studies to identify possible roles for the BA. However, any significant role performed by any other armies of the world is cited to extend the horizon of potential role in these two fields.

Environmental Roles

The U.S. Army extensively contributes to an environmental protection role through the U.S. Army Corps of Engineers (USACE). The USACE environmental mission has two major focus areas: restoration and stewardship. At national level,

USACE does extensive works under the Directorate of Civil Works. USACE has been a leader in developing the nation's water resources and related activities to include harbors and waterways (U.S. Army Corps of Engineers 2014). The Civil Works program's water resource development activities include flood risk reduction, navigation, recreation, environmental stewardship, and emergency response. As part of environmental protection, the fourth strategic goal of USACE in the twenty-first century addresses "restoring degraded aquatic ecosystems and preventing future environmental losses." For instance, The USACE Galveston District manages numerous environmental programs that range from establishing and reestablishing wetlands that help the survival of endangered species to seagrass planting and protection, and riparian forest restoration (Reyna 2018). Table 3 states the specific objectives under this strategic goal.

Table 3. Environmental Strategic Goal and Objective of USACE	
Strategic Goal 4	Restore, Protect, and Manage Aquatic Ecosystems to Benefit the Nation.
Objective 4.1	Restore aquatic habitat to a more natural condition in ecosystems in which structure, function, and dynamic processes have been degraded
Objective 4.2	Reduce adverse impacts to the nation's wetlands and waterways through an effective, transparent, and efficient regulatory process
Objective 4.3	Clean up radioactive waste sites
Objective 4.4	Manage, conserve, and preserve natural resources at USACE projects
Objective 4.5	Provide opportunities for quality outdoor public recreation

Source: U.S. Army Corps of Engineers, *Sustainable Solutions To America's Water Resource Needs* (Washington, DC: U.S. Army Corps of Engineers, 2014).

Within the military, the U.S. Army Environmental Command (USAEC) performs an environmental role. USAEC's mission is to, "Deliver environmental services and solutions in support of the Army's Environmental Program enabling Army readiness and sustainability." They perform the mission by providing six services: protect, preserve, conserve, restore, support, and involve. Out of the six services, project, conserve, and involve are identified as significant to the environmental role for the BA. First, USAEC protects the land, air, and water by meeting environmental standards, reducing effect of army operations, maintaining readiness, and protecting the military community. USAEC also helps integrate sustainable energy management practices into installation activities. Second, AEC implement and maintain programs for the conservation, utilization, and rehabilitation of natural resources across the military installations. According to USAEC, its conservation program includes 13.6 million acres, spread across 152 installations, with 12,563 operational ranges, 1.1 million acres of forest and 1.3 million acres of wetlands

(U.S. Army Environmental Command 2018). It is responsible for protecting 184 endangered species on seventy-nine installations, as well as sixty-eight candidate species on forty-four installations. Third, USAEC involves communities to protect the environment by keeping U.S. citizens aware, educating on adverse impact, promoting public participation, and ensuring compliance with the spirit of the environmental law (U.S. Army Environmental Command 2018). The functions under each service stated above are contained in table 4. Additionally, the U.S. military is devoted to achieving seamless integration between civilian and military applications of environmental protection. The purpose of a collaborative approach is to draw a parallel between civilian and military considerations of environmental issues (GlobalSecurity.org 2018).

Table 4. Functions of AEC in “Protect, Conserve and Involve” Services		
Protect	Conserve	Involve
<ul style="list-style-type: none"> • Clean air act management • Drinking water management • Hazardous waste management • Integrated solid waste management • Oil-water separation (OWS) • Pollution prevention (p2) • Recycling • Storage tank and spill management • Toxics management (asbestos, lead etc.) • Wastewater management • Watershed management 	<ul style="list-style-type: none"> • Army compatible use buffer (ACUB) program • Conservation reimbursable and fee collection programs • Hunting, fishing, forestry, and agricultural out lease programs • Army operational range assessment program (ORAP) • Bald and golden eagle protection • Threatened and endangered species • Marine mammal protection act • Migratory bird protection • Sikes Act • Wetlands • Integrated pest management • Endangered species partners • Natural resources conservation 	<ul style="list-style-type: none"> • National environmental policy act • Restoration advisory boards (RABS) • Public participation

Source: U.S. Army Corps of Engineers. *Sustainable Solutions To America’s Water Resource Needs* (Washington, DC: U.S. Army Corps of Engineers, 2014).

The Indian Army has been increasingly involved in wildlife protection and environmental awareness programs over the last two decades. The Northern Army Command participates in events deterring deforestation, pollution, and environmental degradation to save endangered species in the Greater Himalayas. The mountain battalions have undertaken massive tree planting programs in the wildlife sanctuary of

Sariska. Simultaneously, reforestation drives are taken to prevent soil erosion and landslides in Siliguri and Sikkim. In recognition of the active role in preserving nature, the State Forest Department appointed army officers as honorary wildlife wardens in this region. The army units operating in Rajasthan take initiative to raise awareness by interacting with villages in the Thar Desert to demonstrate the importance of water and fodder management, proper use of village grazing grounds, and benefits of solar energy. In 2015, the Indian Army, in collaboration with the Ministry of Water Resource, participated in the “Clean Ganga” campaign to clean riverbanks, and conduct afforestation (Asthana 2018). The army commands also encourage major installations, industries, and factories—for example, the College of Military Energy outside Pune and the Madras Engineering Group at Bangalore—to be environmentally friendly (D'Souza 2018).

The government of India, in consultation with the Ministries of Defense and the Environment, established the Ecological Task Force of the Territorial Army in 1982 to execute ecological-related projects (Asthana 2018). The trained and disciplined soldiers of Indian Army, who have retired at a fairly young age, were recruited to the Ecological Task Force for exclusive use in environmental protection. The Ecological Task Force was deployed to prevent desertification in the degraded areas of the Himalayan foothills; between Dehra Dun and Mussoorie in the Siwalik hills; in the hills in the extreme northwest; and along the Ganga Canal in Rajasthan. According to D'Souza, the Ecological Task Force have been eminently successful in the construction of bunds and check dams; the prevention of soil erosion; the use of alternate means of renewable energy, including solar cookers and gobar (cow dung) gas plants; security; the

introduction of anti-pollution measures, especially for water; creating environmental awareness among local people; and tree planting on a massive scale (over ten million trees in the past decade) (D'Souza 2018). At present, eight Ecological Task Force battalions are operating across India to preserve nature in threatened areas (Asthana 2018).

There are examples of other international armies deeply involved in environmental protection. The Ministry of Defense in the United Kingdom has an environmental cell that overlooks the environmental activities of British Army. The Venezuelan National Guard protects the rich natural resources across the country. The Brazilian military preserves wildlife and forests in the vast training areas. The Austrian Army was involved in dredging the Danube River and recycling vehicle batteries. Each soldier in the Bulgarian Army plants two trees during two years of national service. The Nepalese Army monitors the deep areas of the Greater Himalayas against pollution. The Vietnamese Army is rebuilding the eco-systems in the areas degraded from Agent Orange during the Viet Nam war.

The governments across the world are correctly identifying environmental hazards as a national security threat. As such, armies are increasingly getting involved in environmental roles. Joseph G. Singh, the former chief of staff of the Guyana Armed Forces, summarized potential key roles of military to protect the environment during the Hague Conference on Environment in 2004. These roles are indicated in table 5.

Table 5. Use of the Military in Environmental Protection and Nature Conservation Missions	
Tier-1 Functions (Active Role)	<ul style="list-style-type: none"> • Information and intelligence gathering on environmental crimes-illegal exploitation and trans-shipment of resources (minerals, flora, and fauna) • Augmenting sectoral capacities in environmental compliance monitoring and enforcement missions.
Tier-2 Functions (Supporting Role)	<ul style="list-style-type: none"> • Use of technology-satellite imagery, remote sensing-aerial photography, to identify changes in the landscapes and ecosystems due to natural disturbances and anthropogenic activities; e.g., SIVAM • Logistic air, land, and water and communications support for civilian regulatory and enforcement missions
Tier-3 Functions (Passive Role)	<ul style="list-style-type: none"> • Networking with local and trans boundary partners in the implementation of regional strategic environmental and conservation protocols, initiatives, and contingencies; e.g., GSI - Building capacity among remote local and indigenous communities for monitoring and enforcement of environmental regulations within their titled land

Source: Joseph Singh, “The Role of the Military and Military Technology in Environmental Protection and Nature Conservation” (paper presented at The Hague Conference on Environment, Security and Sustainable Development, The Hague, Netherlands, 9-12 May 2004), 2-3.

Refugee Control

European countries faced severe refugee crises in 2014-15 when more than one million refugees arrived in the European Union (EU) from across the Mediterranean Sea or overland through Southeast Europe. The initial refugee exodus overwhelmed the capability of police and civilian capabilities in many EU nations. In response to this situation, Austria, Bulgaria, Hungary, and Slovenia deployed almost seven thousand troops in their respective borders to manage the crisis (Nemeth 2016). Since then, their troops have augmented the border police by patrolling borders, assisting civilian authorities, and constructing border fences. Not surprisingly border control has become

one of the core tasks of the armed forces of these countries. The defense ministers of these countries also agreed on intelligence sharing on refugee flows, providing material assistance, developing shared situational awareness, and robust coordination mechanisms (Nemeth 2016). In recent years, the militarization of migration and border controls in Europe has also been explicitly bound by humanitarianism ideals. Italy's Operation Mare Nostrum was a humanitarian operation run by the Italian Navy and Airforce with missions to rescue Africans and Middle-East migrants in the Mediterranean. As such, militarization of refugee control in EU entails a combined security-humanitarian response (Musarò 2016).

Hungary deployed the largest number of troops (4,500) to protect the border against illegal migrant flow by declaring a state of emergency. Subsequently, in September 2015, the National Assembly of Hungary passed legislation empowering the Hungarian Army to deal with the migration crisis. The new law allowed the army to use non-lethal weapons (rubber bullets, tear gas, pyrotechnical devices, and net guns) against illegal refugees (Zeldin 2018). The army was authorized with similar jurisdiction as the Border Police to impose strict control at the borders. These roles are, but not limited to checking credentials, blocking traffic as an emergency measure, entering private homes with a written order, cooperating with security agencies, carrying out intelligence activities to detect possible terrorism-related offenses including human trafficking and detaining suspects (Zeldin 2018). Not surprisingly, border control has become one of the core tasks of the Hungarian Army which initiated series of modification in organization, training, and equipment. In November 2018, 2,300 soldiers of the Hungarian Army

carried exercises with police forces on the 175-kilometer Serbia-Hungary border to efficiently execute border management tasks when necessary (Hungary Today 2018).

As a result of the refugee exodus in EU in 2015-16, NATO considers “instability on the Alliance’s Southern border caused the migration crisis” as a one of the major challenges to regional security” (Belova 2018). This has been NATO’s first instance of employing its military to protect EU’s external borders from a non-military threat. As a response to the EU migration crisis, NATO executed two naval missions in the Mediterranean: An operation in the Aegean Sea and Operation Sea Guardian. Although these two missions are different in scope and objectives, they maintained a common goal to ensure security in the Mediterranean.

Table 6. Primary Tasks of Operation Sea Guardian
<p>Support maritime situational awareness through information-sharing between Allies and with civilian agencies.</p> <p>Support maritime counter-terrorism to deter, disrupt, defend, and protect against maritime-based terrorist activities.</p> <p>Contribute to maritime security capacity building with both military and non-military authorities.</p>

Source: North Atlantic Treaty Organization, “Operation Sea Guardian,” 27 June 2018. https://www.nato.int/cps/en/natohq/topics_136233.htm (accessed November 21, 2018)

The U.S. military has a significant history of managing refugee and internally-displaced person (IDP) crises outside the continental United States in recent past. The military leadership, planning, and resourcing assisted with destabilizing effects, such as crises in Europe during World War II, Bosnia, and Kosovo (Lorenzen and Metzel 2017, 55-63). Based on these historical accounts, Lorenzen and Metzel (2017) brought out few

thoughtful recommendations on managing mass migration crisis which are pertinent to the refugee situation in Bangladesh.

First, well planned logistical resourcing both at military and non-military organizations greatly influenced the timely humanitarian response. Close coordination between the military leadership and members of the host government, UN and NGOs help establish clear lines of responsibilities for distributing humanitarian aid within designated safe zones. Second, bilateral, or multilateral planning efforts easily bridges the civil-military divide and enable government and nongovernment agencies to understand unique military capabilities. Third, ideal military role during mass migration is protection, health services, and infrastructure development in support of the host government. The U.S. Army Corps of Engineers can help train host military and civilian agencies in constructing temporary aid stations, schools, and sanitation facilities. (Lorenzen and Metzel 2017, 55-63).

Inside the continental United States and its territories, U.S. Customs and Border Protection under the Department of Homeland Security is the principal federal law enforcement agency charged with enforcing immigration regulations (Tussing and Griffard 2009, 2-3). They operate on land, sea, and air within North America. The U.S. military's mission to protect the borders is initiated for the purpose of terrorist deterrence, detection, and interdiction before illegal migrants reach the United States. Since 9-11, military forces have been deployed to temporarily supplement and complement the CBP. To receive the Department of Defense support, the Department of Homeland Security must request assistance from the federal government, as delineated in the National Response Framework. The Department of Defense support can only be sought if the security situation on the borders exceeds either the capacity or capabilities of the U.S. Customs and Border Protection or Department of Homeland Security components primarily in-charge (Tussing and Griffard 2009, 2-3). Table 8 consolidates U.S. troops' major deployments in border security roles within the United States.

Table 7. Major Deployments of U.S. Troops in Border Protection		
Timeline	Number of Troops	Reason or Mission of Deployment
4 November 2004 and 20 January 2005	250 Army and Air Guard along with military personnel	Following the intelligence community's assessment of a heightened threat along the northern border between Vermont, New Hampshire and New York, active duty and reserve component forces were deployed along those borders in the execution of Operation Winter Freeze.
15 May 2006 to 15 July 2008	6000 National Guard forces	President George W. Bush mobilized and deployed National Guard soldiers to the U.S. Southwest border to augment the CBP in slowing the flow of illegal migration under Operation Jumpstart.
September 2011	1,600 National Guard troops	National Guardsmen federalized for duty on northern and southern borders against terrorist incursions immediately following 9-11.
21 April 2018	2,100 National Guard	Support CBP to protect the South-western border under Operation Guardian Support.
28 November 2018-ongoing	5,900 U.S. Army	President Trump deployed Active U.S. Army troops to support CBP to secure the South-western border against the 7,000 migrant caravans moving from south toward U.S. border under Operation Faithful Support.

Source: Bernard F. Tussing and Bert B. Griffard, "Migration and Border Security: The Military's Role," *Center for Strategic Leadership* 15, no. 9 (October 2009): 2-3.

The border protection roles of U.S. regular troops are bound by the 1878 Posse Comitatus Act, which restricts U.S. military participation in law enforcement activities unless Congress specifically authorizes it. Any contact to use force against civilians by the U.S. military can only be authorized in self-defense (Wormuth 2018). Hence, the deployed military cannot perform any of the traditional law enforcement functions – arrest, apprehension, interrogation, and detention. The troops are also not allowed to seize drugs from smugglers or have any direct involvement in stopping a migrant caravan.

However, unlike active-duty troops, U.S. National Guardsmen are permitted to carry out law enforcement functions inside the United States, which makes them a better option for border security deployments. Nevertheless, both active duty and guardsmen support CBP extensively by providing helicopter support for border missions, providing night vision capabilities to help with surveillance, installing concrete barriers, and repairing and maintaining vehicles (Tussing and Griffard 2009, 2-3). The Department of Defense also provides strategic airlift, deployable medical units, and logistics units. Additionally, the National Guard soldiers provide intelligence, surveillance, reconnaissance, and counter-narcotics enforcement. Apart from the supporting roles, the Commander of U.S. Northern Command, General T.J. O'Shaughnessy, emphasized that the military must be prepared for "incidental interaction" with migrants; hence troops should be trained for that possibility as well (Wormuth 2018).

Summary

This chapter provides an in-depth idea about the roles performed by various international armies in the fields of "environmental protection" and "refugee control." However, both the BA and contemporary armies of the world have legal bindings that restricts them to assume the identical role of the concerned government and law enforcing agencies. As mentioned in the initial part of this chapter, the BA has negligible contributions in both domains. Furthermore, the few functions assumed now are hastily performed without dedicated training, equipment, and organization. Robust coordination between the among the government agencies is also absent. Hence, the majority of this chapter was focused to explore the roles performed by U.S., EU, India, and other armies in environmental and refugee management roles. The literature reviews identify few

unique roles that can be thoroughly analyzed in subsequent chapters to identify possible functions for the BA in combating environmental hazards and refugee crises. The next chapter delineates the research methodology to pave the way to answering the primary question.

CHAPTER 3

RESEARCH METHODOLOGY

This thesis seeks to answer the Primary research question, “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control role?” The primary question shall be addressed by sequentially answering the two secondary research questions. What are the ways (broad actions) the BA can perform environmental protection and refugee control role? Which environmental protection and refugee control tasks the BA can perform at present?

The research methodology adopted for this thesis is a qualitative methodology. This thesis was conducted using the comparative case study approach. Lesley Bartlett, in her article, *Comparative Case Studies: An Innovative Approach*, says,

The Comparative Case Study Approach promotes a model of multi-sited fieldwork that studies through and across sites and scales. It encourages simultaneous and overlapping attention to three axes of comparison: horizontal, which compares how similar policies or phenomena unfold in locations that are connected and socially produced; vertical, which traces phenomena across scales; and transversal, which traces phenomena and cases across time (Bartlett and Vavrus 2017, 15-16).

Accordingly, thesis is based on the comparative case studies of various Armies compared in three axes. The comparison was conducted in the role of environmental protection and refugee control (horizontal axis). The cases that deal with similar environmental threats and refugee crises identical to Rohingya refugees (vertical axes). Cases that were recent in nature and developed within the last ten years (transversal).

In the environmental role, three cases were studied in chapter 2. The first case discusses U.S. Army’s contribution in the environmental protection role. This case study

was selected to identify the environmental tasks performed by a fully operational, modern, and developed army. The environmental missions for the U.S. Army are principally executed by the U.S. Army Corps of Engineers (USACE) and the U.S. Army Environmental Command (USAEC). USACE performs nationwide natural aquatic stewardship and restoration missions under the Directorate of Civil Works (U.S. Army Corps of Engineers 2014). Unlike the Engineer Corps, USAEC mostly provides environmental services within the U.S. Army lands and habitats. The environmental programs of USAEC include six services: protect, preserve, conserve, restore, support, and involve (U.S. Army Environmental Command 2018).

The second case study provides an overview of the environmental tasks performed by the Indian Army. Since Bangladesh Army shares the same colonial heritage and similar organizational culture, the author selected Indian Army's environmental role as a case study for this thesis. Most of the tasks undertaken by the Indian Army are to deter deforestation, pollution, and environmental degradation to protect the wildlife habitat in the Himalayas. Moreover, environmental awareness and renewable energy programs are conducted in ecologically challenged areas (D'Souza 2018). The third case study randomly discusses the tasks performed by other armies of the world, which has significant environmental hazards similar to Bangladesh. It also summarizes The Hague Conference on Environment, Security and Sustainable Development proceedings, which discusses possible active, supporting, and passive roles of the military to safeguard nature (Singh 2004, 2-3).

According to the Bangladesh operational environment, seven environmental tasks discussed in the case studies are suitable for the BA. These tasks were selected based on

the BA's historical instances to aid the civil administration during major crisis management (Armed Forces Division 2018). Moreover, the tasks are also within the capability of the BA's existing organization and equipment. These seven tasks are 1) restore degraded aquatic habitat ecosystems; 2) manage, conserve, and preserve natural resources on military-owned lands; 3) integrate sustainable energy management practices within and beyond the institution; 4) conduct environmental education programs to raise public awareness; 5) deter deforestation, pollution, and environmental degradation to save endangered species; 6) gather intelligence on environmental crimes and augment environmental compliance monitoring missions; and 7) provide logistics and transportation support to civilian regulatory and enforcement missions.

These seven tasks found in the case studies is analyzed to identify potential tasks for the BA in environmental protection role. This analysis can be compared to the understanding the "current state" of Army Design Methodology, which shall help to identify the operational approach to reach the consolidated tasks (desired end state) (Headquarters, Department of the Army 2012). The analysis shall be done to understand the status of the functions already performed by the BA using the tool shown in table 8. Within the table, 0 denotes the task has never been performed; 1 denotes the BA rarely performs those tasks, but do so in a disorganized and inefficient manner; 2 denotes that BA occasionally performs the task with limited efficiency and success; and 3 denotes the BA regularly performs the task successfully with efficiency.

Table 8. Identification of Potential Tasks in Environmental Protection Role					
Case Study	Tasks	Already Performed by BA			
		0 Not performed	1 Poorly performed	2 Moderately performed	3 Very well performed
U.S. Army	Restore degraded aquatic habitat ecosystems				
	Manage, conserve, and preserve natural resources at military owned lands				
	Integrate sustainable energy management practices within and beyond the institution				
	Conduct environmental education programs to raise public awareness				
Indian Army	Deter deforestation, pollution, and environmental degradation to save endangered species				
Other Armies	Gather intelligence on environmental crimes and augment environmental compliance monitoring missions				
	Provide logistics and transportation support to civilian regulatory and enforcement missions				

Source: Created by author.

In the role of refugee control, two cases explore tasks performed by the military when dealing with refugee crisis. The first case discusses the response of European Armies during the mass European migration crisis in 2014-15. The European migration crisis has similarities with Rohingya refugee crisis in many ways. In both the cases, the

persecuted migrant flow was overwhelming, creating a humanitarian crisis (European Commission 2018). Austria, Bulgaria, Hungary, and Slovenia deployed almost seven thousand troops to augment the border force; Hungary passed special legislation to empower military to assume the role of border police (Lorenzen and Metzel 2017, 55-63). Apart from stabilizing the border, the armies widely performed humanitarian assistance tasks during the mass exodus.

The second case study deals with multiple deployments of the U.S. active Army and the National Guard in dealing with refugee crises both in and outside the continental United States. This case study was selected to understand the employment of modern Armed Forces by a democratic government to assist civil administration in protecting the national borders. Within the continental United States, the U.S. active Army is bound by the *1878 Posse Comitatus Act*, which restricts direct contact or dealing with the refugees. Hence, the Army was mostly used in supporting role to the CBP (Wormuth 2018). However, outside the continental United States, the control of refugees was done as part of stability operations, which focuses on better integration with civil authority, NGOs, and the UN. In these scenarios, the Army mainly used humanitarian assistance task in the form of health services and infrastructure development.

These two case studies have similarities with the ongoing Rohingya refugee crisis in Bangladesh. The tasks performed by both European and U.S. military forces seem to be suitable for the BA. The Army has limited experiences in most of the refugee control tasks (Brigade Major 2018). Accordingly, the researcher identifies six tasks that are the best fit for the BA as part of aiding civil authorities. These six tasks are 1) actively augment the border police actively to secure borders; 2) conduct humanitarian operations

and secure refugee camps; 3) provide intelligence to detect terrorism, human, and drug trafficking; 4) coordinate with the UN and NGOs to synchronize humanitarian assistance; 5) assist in health services and infrastructure development in refugee camps; and 6) support the border forces logistically by transportation and surveillance capabilities.

The six tasks found in the two case studies shall be analyzed to identify the “current state” of the BA in performing the refugee control role. Similar to table 8, the analysis shall explain the status of functions that are already performed by the BA. The 0-3 scale signifies the same meaning as stated for table 8.

Table 9. Identifying the Potential Tasks in Refugee Control Role					
Case Study	Tasks	Already Performed by BA			
		0 Not performed	1 Poorly performed	2 Moderately performed	3 Very well performed
EU or NATO Armies	Augment the border police actively to secure borders				
	Conduct humanitarian operations and secure refugee camps				
	Provide intelligence to detect terrorism, human, and drug trafficking				
U.S. Army	Coordinate with UN and NGOs to synchronize humanitarian assistance				
	Assist in health services and infrastructure development in refugee camps				
	Support the border forces logistically by transportation and surveillance capabilities.				

Source: Created by author.

The environmental protection and refugee control tasks achieving a scale of 3 in both tables 8 and 9 shall not be discussed further. At the end of the task analysis, the first secondary question, “What are the ways (broad actions) BA can perform environmental protection and refugee control role?” will be answered.

All the potential tasks from tables 8 and 9, shall be further scrutinized based on the *Suitability, Acceptability, and Feasibility model* (SAF) (Scholes, Scholes and Johnson 2008). Johnson, Scholes, and Whittington in their book, *Exploring Corporate Strategy*, discuss the SAF model to evaluate the success criteria for strategic options. In this model, the Suitability test asks the question, “does the proposed strategy address the key opportunities and constrains the organization faces?” The Acceptability test asks, “does the proposed strategy meet the expectations of the stakeholder? Is the level of risk acceptable?” The Feasibility test asks, “Would the proposed strategy work in practice? Can the required resource be obtained?” (Heath 2016).

Hence, the SAF model can be effectively applied in this context to evaluate the new tasks (compared to strategic options in actual model) in both environmental and refuge control role. Based on the SAF model, the SAF matrix in table10 was developed to analyze the operational possibilities for the BA to immediately assume potential tasks. Each evaluation criteria shall be answered based on the sample question in a gradual scale of 1-3. The denotation of the scale is described inside the table below. The analysis using a scale of 1-3 will identify the environmental protection and refugee control task that the BA can or should perform at present. In table 10, based on the total score of the evaluation criteria, the first three tasks in each role shall be identified. Consequently, the second secondary question, “Which environmental protection and refugee control tasks the BA can perform at present?” shall be answered.

Table 10. SAF Model for Vetting Environmental and Refugee Control Tasks for BA				
Criteria	Sample Question	Scale or Meaning		
		1	2	3
Suitability	Does it pose immediate threat to the nation if not dealt immediately?	<u>No</u> (Low economic, environmental and security threat)	<u>Moderately</u> (Moderate economic, environmental, and security threat)	<u>Yes</u> (Severe economic, environmental, and security threat)
	Is the task beyond the capability of concerned civil authority?	<u>No</u>	<u>Partially</u>	<u>Yes</u>
Feasibility	Is the task justified by national law and policies?	<u>No</u>	<u>Partially</u>	<u>Yes</u>
	How prepared is BA on the specified task?	<u>Not prepared</u> (No training and equipment readiness, no experience, positional disadvantage, and longer training time)	<u>Partially</u> (No training, but has similar experience, partial positional advantage, and can be trained in short time)	<u>Prepared</u> (Already trained, has positional advantage, and experienced)
Acceptability	Will the task harm readiness of primary role of the BA unit?	<u>Yes</u> (Involve larger force for longer time, units cannot be rotated)	<u>Partially</u> (Involve small force for longer time, units can be rotated)	<u>No</u> (Involve small force for short time)
	Will assuming the task by BA harm the working environment of concerned government and law enforcing agency?	<u>Yes</u> (Overlapping Tasks, BA Supervise over concerned agency)	<u>Partially</u> (Reinforcing the agencies)	<u>No</u> (Independently performs task)

Source: Gerry Scholes and Kevan Johnson, *Exploring Corporate Strategy* (Essex, England: Pearson Education Limited, 2008).

In summary, this chapter lays down the research methodology of the comparative case study approach to answer the research question. The methodology described in this chapter shall answer the primary research question, “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control role?” The next chapter will analyze the data from the literature review using the methodology outlined in this chapter to answer the SRQ and primary research question.

CHAPTER 4

FINDINGS AND ANALYSIS

The purpose of this chapter is to answer the primary and secondary questions utilizing the information gathered from literature reviews and the methodology set by researcher. The researcher will also contribute to the analysis from his personal experience of commanding an infantry company in assistance to the civil administration. This chapter will initially explore the potential tasks for Bangladesh Army (BA) from the comparative case study of the contemporary Armies in similar roles. The analysis of tasks will provide an answer of first SRQ, “What are the ways (broad actions) BA can perform the new roles to address the critical non-traditional security (NTS) of BD?” Subsequently, suitability of these tasks shall be vetted or analyzed against the SAF model, which will lead to three consolidated tasks according to priority. The tool referenced in table 10 shall determine the top three tasks for the BA in both environmental protection and refugee control. At this point, the paper will answer the second SRQ, “Which environmental protection and refugee control tasks BA can perform at present?” Resultantly, the research shall answer the primary question, “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control role?”

Identification of Potential Tasks for BA in Environmental Protection and Refugee Control Role

The analysis to explore potential tasks for the BA shall be done by using the tool specified in tables 8 and 9 in chapter 3. As a result, it will be easier to understand the status of the already performed functions of the BA in both roles. Here, θ denotes that the

task was never performed; 1 denotes the BA rarely performs the tasks, but in a disorganized and inefficient manner; 2 denotes the BA occasionally performs the task with limited efficiency and success; and 3 denotes the BA regularly performs the task successfully with efficiency.

Environmental Protection Role

The comparative case studies done for environmental protection role identifies various tasks performed by U.S., Indian, and other armies of the world. Moreover, the tasks performed by the BA to fight environmental hazards are also delineated in chapter 2. Table 11 synthesizes the environmental tasks found from comparative case studies against the tasks already performed by the BA.

Table 11. Identification of Potential Tasks in Environmental Protection Role					
Case Study	Tasks	Already Performed by BA			
		0 Not performed	1 Poorly performed	2 Moderately performed	3 Very well performed
U.S. Army	Restore degraded aquatic habitat ecosystems				3
	Manage, conserve, and preserve natural resources at military owned lands				3
	Integrate sustainable energy management practices within and beyond the institution			2	
	Conduct environmental education programs to raise public awareness	0			
Indian Army	Deter deforestation, pollution, and environmental degradation to save endangered species		1		
Other Armies	Gather intelligence on environmental crimes and augment environmental compliance monitoring missions	0			
	Provide logistics and transportation support to civilian regulatory and enforcement missions	0			

Source: Created by author.

There are four potential tasks performed by the U.S. Army in environmental protection roles, which addresses threats Bangladesh presently faces. First, the U.S. Army Corps of Engineers is responsible to restore aquatic habitat to a more natural condition in ecosystems in which structure, function, and dynamic processes have been degraded (U.S. Army Corps of Engineers 2014). The BA has significant contribution in this field to restore the threatened water bodies in various parts of the country. In the capital city of Dhaka, the BA Engineers Corps supervised development of Dhanmondi and Hatirjhil Lake, which caused environmental hazards in the localities (Armed Forces Division 2018). Moreover, the BA is directly involved in improving drainage system and protecting river banks against erosion. However, like the U.S. Army Engineers Corps, BA engineers may augment the monitoring system of a nation's wetlands and waterways in threatened areas through a joint regulatory commission with the Ministry of Water Resources and Water Development Board of Bangladesh. Second, USAEC protects the land, air, and water of military areas by meeting environmental standards, reducing the effect of army operations, and protecting the military community (U.S. Army Environmental Command 2018). The BA already demonstrates effective nature management and preservation within its military lands. The GOB recognized a successful environmental campaign at military training area in Swarna Deep. The drive included animal husbandry, pisciculture, and afforestation projects aimed at providing the local people a better life (The Independent 2017). Third, USAEC also helps to integrate sustainable energy management practices into military installation activities (U.S. Army Environmental Command 2018). The BA has limited initiatives to adopt renewable energy in remote army installations, which do not have access to electricity. At the

national level, GOB is also lacking in the capability to generate 2,000 megawatts green energy (10 percent of the total) by the end of 2020 (Nabi 2019). The BA may boost the solar power generation within the military installations across the country. This initiative may help the GOB to create an example for pursuing the 2020 goal. Fourth, the U.S. Army has initiatives to raise U.S. citizens awareness, educating them on adverse impacts, promoting public participation, and ensuring compliance with the spirit of the environmental law. Accordingly, the BA may conduct environmental awareness camps in vulnerable areas. Undoubtedly, a properly directed education program run by the BA is likely to have tremendous effect on the general masses. These programs can be conducted during annual field training exercises in collaboration with the Ministry of Environment, Forest, and Climate Change.

Likewise, the BA may contribute to a major task as performed by the Indian Army to protect nature. The units of Indian Northern Command, deployed in the Greater Himalayas, participate in events to deter deforestation, pollution, and environmental degradation to save endangered species (D'Souza 2018). So far, the BA has not been involved in any program related to the prevention of deforestation, pollution, and environmental degradation in the recent past. Although military deployment in the Chittagong Hill Tracts region provides an element of deterrence to environmental criminals, the Army has never been directly actively involved in conservation and preservation of environment. Hence, like the Indian Army, the BA may become actively involved to deter man-made environmental hazards in the remote districts of Rangamati, Khagrachari, Bandarban, and Cox's Bazar.

Environmental protection tasks performed by other armies frequently align with those of the U.S. and Indian Army. However, two tasks proposed by Joseph G Singh, former chief of staff of the Guyana Armed Forces, during the Hague Conference on Environment in 2004, are appropriate for the BA units deployed in Chittagong Hill Tracts. The army units deployed in the southeastern, hilly jungle areas of Chittagong Hill Tracts have the positional advantage to assist the Ministry of Environment, Forest, and Climate Change in the inaccessible areas. First, these units may be utilized to gather intelligence on environmental crimes related to illegal exploitation and transshipment of natural resources. At the same time, the BA may assist in environmental compliance monitoring and enforcement missions by conducting their usual patrolling missions in the region. Second, the BA can easily logistically support the concerned agencies with transportation, imagery, and distant communications in the Chittagong Hill Tracts region.

Refugee Control

The comparative case studies done in refugee control role identifies number of tasks performed by U.S. and EU armies in the event of mass refugee migration and humanitarian crisis. The present role performed by the BA is also taken into consideration to visualize the current status. Table 12 synthesizes the refugee control tasks found from comparative case studies against the tasks already performed by the BA.

Table 12. Identifying the Potential Tasks in Refugee Control Role					
Case Study	Tasks	Already Performed by BA			
		0 Not performed	1 Poorly performed	2 Moderately performed	3 Very well performed
EU or NATO Armies	Augment the border police actively to secure borders	0			
	Conduct humanitarian operations			2	
	Provide security and intelligence against terrorism, human, and drug trafficking			2	
U.S. Army	Support the border forces logistically by transportation and surveillance capabilities	0			

Source: Created by author.

There are three major tasks performed by the EU armies against the mass migration crisis in 2014-15. These tasks are best fit for the BA in the face of ongoing Rohingya refugee crisis in Bangladesh. First, in 2014, armies of Austria, Bulgaria, Hungary, and Slovenia augmented their border police by patrolling borders, assisting civilian authorities, and constructing border fences (Nemeth 2016). In Bangladesh, the Border Guard Bangladesh (BGB) force actively patrols the border with Myanmar. However, during the 2017 Rohingya mass exodus, the BGB were greatly outnumbered by the flow of Rohingyas. As such, the BA units deployed into the bordering region with Myanmar may be given a be prepared mission to rapidly reinforce the BGB during any future events. Second, Italian Armed Forces conducted Operation Mare Nostrum, which

was a humanitarian operation to save lives of African and Middle-eastern migrants. Moreover, Pierluigi Musarò, associate professor of sociology at the University of Bologna, in his article, *The Political 'Migration Crisis' and the Military-Humanitarian Response*, describes militarization of refugee control in EU as a combined security-humanitarian response.

At present, the BA is tackling the humanitarian crisis by playing a major role in distributing relief to the Rohingya refugees throughout the refugee camps. Additionally, the Army contributes to humanitarian functions by operating field medical centers, supplying pure drinking water, constructing roads, shelters, and sewerage, and ensuring sanitation practices. Hence, the BA significantly contributes to the humanitarian drive to manage the one million refugees. However, a large portion of affected refugees are still unserved in which the BA has the scope to perform significant role. As such, the Army must devise a proper mechanism to select the right beneficiaries; coordinate and share information among concerned ministries, NGOs, and agencies; avoid duplication or overflow of humanitarian assistance only in accessible areas and improve communication network. Third, the Hungarian Army carried out intelligence activities to detect possible terrorism-related offenses including human trafficking and detaining suspects. One of the primary tasks of Operation Sea Guardian was to deter, disrupt, defend, and protect against terrorist activities. In this regard, in collaboration with para-military forces, the BA provides continuous surveillance of the camp areas against any threat of drug smuggling, terrorism, and illegal trafficking in the region. Although the joint security forces are successful in preventing terrorist infiltration and human trafficking in the camps, drug smuggling is on the rise. Despite continuous surveillance of the area,

considerable numbers of Rohingyas act as agents to deliver “Yaba” to the drug peddlers (Banerjee 2019). As such, joint efforts against the drug drive need a robust plan and intelligence sharing across the security agencies. The BA may be used to create the required deterrence by its presence in every part of the refugee camps.

The case study of the U.S. Army in the border protection role mostly discusses its supporting role only if it exceeds either the capacity or capabilities of U.S. Customs and Border Protection or Department of Homeland Security components. Since the 1878 Posse Comitatus Act restricts U.S. military participation in law enforcement activities, U.S. Army deployments primarily focus on providing logistical support to U.S. Customs and Border Protection. This support includes providing helicopter support for border missions, providing night vision capabilities to help with surveillance, installing concrete barriers, and repairing and maintaining vehicles (Tussing and Griffard 2009, 2-3). The Department of Defense also provides strategic airlift, deployable medical units, and logistics units. At present, the BA does not perform any logistical support to concerned law enforcement and government agencies. Hence, the GOB may employ the Army to provide systematic logistic support to BGB, Rohingya Relief and Repatriation Commission under the Ministry of Disaster Management and Relief, Ministry of Health and Local administration. This support may include but is not limited to providing air and ground transportation support, radio communication support, setting up temporary accommodation, and managing national and international observers etc.

The analysis of both environmental and refugee control role identifies the relevant tasks and how these are currently addressed by the BA. There are two environmental tasks with scores of 3 (very well performed); restore degraded aquatic habitat

ecosystems; and manage, conserve, and preserve natural resources at military owned lands. As such, these tasks will not be further analyzed in the next part of the chapter. However, the status of each tasks in both tables 11 and 12 finds broad actions the BA can perform or better perform in environmental protection and refugee control role. As such, the first part of the chapter successfully answers the first SRQ, “What are the ways (broad actions) the BA can perform environmental protection and refugee control role?”

Analysis of the Identified Potential Tasks for BA in Environmental Protection and Refugee Control Role

The identified potential tasks (five in environmental protection and four in refugee control) found in tables 11 and 12 will be evaluated using the *Suitability, Acceptability, and Feasibility model* (SAF) (Scholes, Scholes and Johnson 2008). The SAF matrix will analyze operational possibilities for the BA to immediately assume the identified task. Each evaluation criteria shall be answered based on the sample question in a graduated scale of 1-3. The values against each question is repeated from chapter 3 for ease of the reader. The evaluation criteria shall determine top three tasks for the BA in both environmental protection and refugee control.

Table 13. SAF Model for Vetting Environmental and Refugee Control Tasks for BA				
Criteria	Sample Question	Scale or Meaning		
		1	2	3
Suitability	Does it pose immediate threat to the nation if not dealt immediately?	<u>No</u> (Low economic, environmental, and security threat)	<u>Moderately</u> (Moderate economic, environmental, and security threat)	<u>Yes</u> (Severe economic, environmental, and security threat)
	Is the task beyond the capability of concerned civil authority?	<u>No</u>	<u>Partially</u>	<u>Yes</u>
Feasibility	Is the task justified by national law and policies?	<u>No</u>	<u>Partially</u>	<u>Yes</u>
	How prepared is BA on the specified task?	<u>Not prepared</u> (No training and equipment readiness, no experience, positional disadvantage, and longer training time)	<u>Partially</u> (No training, but has similar experience, partial positional advantage, and can be trained in short time)	<u>Prepared</u> (Already trained, has positional advantage, and experienced)
Acceptability	Will the task harm readiness of primary role of the BA unit?	<u>Yes</u> (Involve larger force for longer time, units cannot be rotated)	<u>Partially</u> (Involve small force for longer time, units can be rotated)	<u>No</u> (Involve small force for short time)
	Will assuming the task by BA harm the working environment of concerned government and law enforcing agency?	<u>Yes</u> (Overlapping Tasks, BA Supervise over concerned agency)	<u>Partially</u> (Reinforcing the agencies)	<u>No</u> (Independently performs task)

Source: Gerry Scholes and Kevan Johnson, *Exploring Corporate Strategy* (Essex, England: Pearson Education Limited, 2008).

Evaluation of Potential Environmental Protection Tasks

There are five potential environmental tasks identified from the first part of this chapter. These tasks fit the BA in present context. However, an in-depth analysis against the SAF model is necessary to assess tasks that can be immediately performed by the BA with existing organization, doctrine, training, and resources. Table 13 values grade the environmental tasks against the evaluation questions of SAF model. The detail analysis of the table is subsequently discussed to justify the values given to each task in the table.

Table 14. Analysis of Environmental Tasks against SAF Model							
Role	Tasks	Suitability		Feasibility		Acceptability	
		Does it pose immediate threat to the nation if not dealt immediately?	Is the task beyond the capability of concerned civil authority?	Is the task justified by national law and policies?	How prepared is BA on the specified task?	Will the task harm readiness of primary role of the BA unit?	Will assuming the task by BA harm the working environment of concerned government and law enforcing agency?
Environmental Protection	Integrate sustainable energy management practices within and beyond the institution (14)	1	1	3	3	3	3
	Conduct environmental education programs to raise public awareness (14)	2	2	3	1	3	3
	Deter deforestation, pollution, and environmental degradation to save endangered species (12)	3	3	2	1	2	1
	Gather intelligence on environmental crimes and augment environmental compliance monitoring missions (13)	3	2	2	1	2	1
	Provide logistics and transportation support to civilian regulatory and enforcement missions (14)	1	1	3	3	3	3

Source: Gerry Scholes and Kevan Johnson, *Exploring Corporate Strategy* (Essex, England: Pearson Education Limited, 2008).

First, the BA has the ability to demonstrate using sustainable energy within the organization. The gradual increase in green energy practices has a far-reaching effect on the nation's fossil energy consumption. A long-term sustainable energy plan by the Army can create an example across the nation and inspire the population. The project hardly requires any additional expertise to implement and can be easily integrated in every army

formation. However, the Ministry of Power, Energy and Mineral Resources may coordinate with the BA to promote the initiative across the nation by using the mass media. Additionally, this initiative may be popularized systematically among all ranks of the Army. The soldiers, who are mostly from rural background, may take individual initiatives in their villages and hometowns to promote green energy.

Second, the GOB may task the Army to conduct environmental education programs to raise public awareness. Lack of environmental education is one of the principal reasons for widespread pollution. The Ministry of Environment, Forest and Climate Change has so far made little progress in educating the populous. Hence, the BA may be given the responsibility as part of aiding the civil administration according to the Armed Forces (Emergency Duties) Act, 1947. However, since the topic is not included in the MOOTW publications of the BA, all ranks need to be educated through comprehensive training by environmental experts. A short and intense educational awareness campaign to the local population, if integrated with the annual winter training exercises, shall not have any adverse effect on the regular training curriculum. However, the Ministry of Environment, Forest and Climate Change should be the lead planner and controller of such a nation-wide campaign.

Third, the Army may be employed to deter deforestation, pollution, and environmental degradation in the naturally threatened sectors of the country. Deforestation and pollution are the major hazards which are beyond the capability of the concerned authorities (Sobhan 2012). This task may also be justified by Section (1) of the Armed Forces (Emergency Duties) Act 1947. However, the Army may be deployed for a prolonged period and must be given the special prosecution authority to perform

effectively. The units deployed in such task also needs to undergo training of the environmental laws and rules of engagement. Moreover, the units deployed in such role may have to make a compromise with the usual functions performed. For instance, the units deployed in Chittagong Hill Tracts to assist civil administrations to maintain the security of the region, may have to compromise their regular security tasks if given the additional task of environmental protection. Moreover, the Army's role might also overlap and conflict with the functions performed by the concerned civil authority.

Fourth, the BA may augment the understrength local law enforcing agencies by collecting intelligence on environmental crimes. Simultaneously, in remote reserve forest and aquatic zones, threatened by massive scale of natural degradation, the Army may even monitor compliance of the environmental laws. Like the previous task, the GOB has to deploy a portion of the Army to assist civil assistance. Although the Army has limited knowledge of environmental law and its application, the required training can be imparted in short time. The readiness of particular units may be temporarily compromised, which can be mitigated by conducting regular rotations. However, since the task entails direct contact with criminals and defaulters, there is always a possibility for the unit to become involved in corruption. This task will also requires working in harmony with the ministry, local government, and police. Hence, if not coordinated properly, there is high risk of conflicting with each other's domain.

Finally, due to the shortages of resources, the BA may provide logistics and transportation support to concerned civilian regulatory authority. This support may be needed only in the remote part of Chittagong Hill Tracts where only the military transportation system is active. The government may easily order the Army to support

civilian authorities without employing them to aid civil authorities. The BA can provide transportation support along with their regular traffic in the region. In this case, there is no possibility of risking the civil-military working environment.

Evaluation of Potential Refugee Control Tasks

Four potential refugee control tasks have been identified from the first part of this chapter. The author finds these four tasks best fit with the ongoing Rohingya crisis in Bangladesh. However, the SAF model will be able to identify better suitability of the tasks which can be immediately performed by the BA to address the Rohingya refugee crisis with existing organizations, doctrine, training, and resources. Table 13 analyzes the refugee control tasks against the evaluation questions of the SAF model followed by discussion on the values given to each task.

Table 15. Analysis of Refugee Tasks against SAF Model							
Role	Tasks	Suitability		Feasibility		Acceptability	
		Does it pose immediate threat to the nation if not dealt immediately?	Is the task beyond the capability of concerned civil authority?	Is the task justified by national law and policies?	How prepared is BA on the specified task?	Will the task harm readiness of primary role of the BA unit?	Will assuming the task by BA harm the working environment of concerned government and law enforcing agency?
Refugee Control	Augment the border police actively to secure borders (11)	1	2	2	1	3	2
	Conduct humanitarian operations (14)	3	3	2	2	2	2
	Provide security and intelligence against terrorism, human and drug trafficking (13)	3	2	2	2	2	2
	Support the border forces logistically by transportation and surveillance capabilities (14)	1	1	3	3	3	3

Source: Gerry Scholes and Kevan Johnson, *Exploring Corporate Strategy* (Essex, England: Pearson Education Limited, 2008).

First, the BA may actively participate in securing the borders with Myanmar to augment the BGB. Although the BGB reinforced the Bangladesh-Myanmar, 210 miles long border, there are a number of gaps through which refugee influx is possible (Ataullah 2018). As such, Army units may be given the responsibility to control certain stretches of the border. Alternatively, the Army may remain as a reserve force to be called up during a mass exodus or to deal with any humanitarian crisis in close vicinity of

the border. However, the GOB has to deploy the Army to assist the BGB in accordance with the Armed Forces (Emergency Duties) Act, 1947. Since the BA has never been deployed to protect the border to resist refugee influx in recent past, the Army neither has the experience nor expertise in this task. Moreover, militarizing the border may have strategic consequences with Myanmar and international key players. Meddling with the typical role of BGB may also harm the joint operating environment.

Second, GOB may task the Army to participate in humanitarian operations to address the ongoing large-scale crisis in the southeastern region of the country. The situation is clearly beyond the capability of the Rohingya Relief and Repatriation Commission and the Ministry of Health and Local administration. Moreover, there are cases of duplication of efforts in certain areas and complete absence of assistance in certain parts (Bryant and Wake 2018). Lack of proper coordination between the government agencies, UN, and NGOs also cause mis-directed humanitarian operations. In these situations, the Army, operating in aid to civil authority, may play the role of lead agency to manage the crisis by coordinating, resource allocating, and managing various assistance operation. Proper integration is the key to a sustainable working environment amongst the agencies to reach end state of the humanitarian operation. Concurrently, the specialties of the Army may also be utilized; the Medical Corps can establish medical camps to provide vital health services; engineers corps may continue building infrastructures across the refugee camps to establish better communication routes for the flow of aids equally to all sectors; supply corps may maintain the facilities to store aids; and the infantry may secure the humanitarian operation area. These humanitarian

operations are a part of the regular MOOTW training in the BA. Hence, the Army has both the experience and expertise to conduct and coordinate such operations.

Third, the BA may be employed to provide security as a part of joint task force. Simultaneously, the intelligence branch may provide valuable information on fighting the potential terrorism, human trafficking, and drug smuggling. In present context, the Rohingya refugees must be limited to the camp boundaries to reduce security, environmental, economic, and demographic impacts (Chowdhury 2018). Hence, securing the Rohingya refugees within the large camps is a great challenge for the government, which requires a robust joint security task force. The BA may lead the joint task force agencies, comprised of military, para-military, and police forces, to establish the perimeter security. Since, the Army is likely to come in direct contact with the refugees, the employment must be justified by Section (1) of the Armed Forces (Emergency Duties) Act, 1947. However, the BA must be well trained for dealing with defaulter refugees and have clear knowledge on rules of engagement. Similarly, the Army may be a part of the joint intelligence effort and provide information on terrorism, drug, and human trafficking. Nevertheless, the risk of over enforcing security on the already persecuted refugees may draw the attention of the media and harm the overall humanitarian and security effort. Moreover, any disharmony across the security and law enforcing agencies may affect the joint operating environment.

Finally, similarly to the last environmental role, the BA may logistically support the BGB, government agencies, UN, and NGOs. At present, almost all agencies are in shortage of administrative and logistical support. In this scenario, the BA may support BGB by providing aerial and ground transportation, maintenance, and surveillance

equipment to protect the border. While the civilian agencies may be given required transportation, security, temporary accommodation, and basic services to conduct effective humanitarian operations, the deployment of the BA in aid to civil administration shall automatically support the government agencies.

The analysis in second part of this chapter evaluates the potential tasks in both environmental and refugee control role. The SAF model evaluates each task in a scale of 1-3. Consequently, the tasks having greater value, can be better performed by the BA at present. According to the methodology, the author considers top three tasks to answer the second SRQ, “Which environmental protection and refugee control tasks the BA can perform at present?”

Summary

This chapter analyzes the potential environmental protection and refugee control tasks obtained from the comparative case studies. The tools described in research methodology are applied to the potential tasks to evaluate against the preset context of the threats. The first part of this chapter identifies the potential tasks in which the BA is already employed by the GOB. This part of the chapter identifies broad action the BA can perform or better perform in environmental protection and refugee control role. As such, the first part of the chapter successfully answers the first SRQ, “What are the ways (broad actions) the BA can perform environmental protection and refugee control role?” The second part of the chapter uses the SAF model to find out the tasks which can be immediately performed by the BA with existing organization, doctrine, training, and experience. Tables 13 and 14 are used to value each task to identify top three tasks in both environmental and refugee control role. As such the three tasks answers the second

SRQ, “Which environmental protection and refugee control tasks the BA can perform at present?”

As a result, the two SRQ answer the primary question of this thesis, “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control role?” The following tasks enhance the BA capability in both environmental and refugee control role. The three environmental tasks are 1) integrate sustainable energy management practices within and beyond the institution; 2) conduct environmental education programs to raise public awareness; and 3) provide logistics and transportation support to civilian regulatory and enforcement missions. Similarly, the three refugee control tasks are 1) conduct humanitarian operations; 2) provide security and intelligence against terrorism, human and drug trafficking; and 3) support the border forces logistically by transportation and surveillance capabilities. The next chapter shall summarize the thesis and provide recommendations for the BA to enhance their capability in both environmental and refugee control roles.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this thesis was to identify the tasks for Bangladesh Army to perform environmental protection and refugee control role. Through the comparative case study approach, the study answers the two secondary research questions, “what are the ways (broad actions) the BA can perform environmental protection and refugee control role?” and “which environmental protection and refugee control tasks the BA can perform at present?” Consequently, this research led to consolidated tasks which can enhance the capability of the BA in both environmental and refugee control roles. Hence the study successfully answers the primary question, “How can the Bangladesh Army enhance its capabilities to better perform environmental protection and refugee control?”

This chapter shall iterate the background of the study and summarize the findings found through the research methodology. The chapter shall conclude with the author’s recommendations and areas for further study for the Bangladesh Army to implement the outcome of the research.

Conclusion and Findings

Bangladesh aspires to become an upper middle-income nation (gross national income per capita more than \$3,896) by the end of 2021 (Bangladesh Sangbad Sangstha 2019). However, the country faces significant NTS threat from terrorism, the Rohingya crisis, environmental and cyber security. Out of these NTS threats, environmental hazards and the Rohingya refugee crisis are crippling the nation’s economy. In the environmental

sector, Bangladesh is ranked 179th out of 180 countries of the world (Environmental Performance Index 2019). Although the Ministry of Environment, Forest and Climate Change is battling against environmental threats, overpopulation, lack of law enforcement, poor infrastructure, and widespread corruption has greatly exceeded civil authorities' capabilities to maintain it. As such, Bangladesh is lagging in meeting its 2020 environmental goals. The 2017-18 mass exodus of Rohingya refugees in Bangladesh is creating a great burden on the country. Bangladesh hosts almost one million Rohingya refugees in a number of refugee camps in the southeastern district of Cox's Bazar. The enormous humanitarian crisis of the refugees is creating environmental, demographic, and financial threats to the region. Despite an all-out effort, GOB, UN, and NGOs are overwhelmed by the multiple impacts of the huge number of refugees. Moreover, the extremely slow repatriation process of the refugees indicates that Bangladesh is likely to continue hosting them for an indefinite period. At present the GOB, assisted by national and international agencies, is spending \$300 million per month to manage the crisis.

The BA has been aiding the civil authority since its inception in 1971. Over time, the organization has proved to be efficient in assisting the civil administration by managing natural and manmade disasters, stabilizing internal law and order, and participating in nation-building activities. However, in both ongoing environmental degradation and refugee crisis issues, the BA's involvement has been limited so far. The BA's organizational structure, training, leadership, motivation, technical skills, mobility, and intercommunications have the ability to face and adapt to any NTS threat to the nation. As such, the GOB has a great opportunity to employ the Army in tackling severe threats posed by environmental degradation and refugee crises.

This thesis conducted a comparative case study approach in which the author studied employment of contemporary armies of the world in environmental protection and refugee control roles. The author initially listed seven tasks in environmental protection and five tasks in refugee control roles from comparative case studies. In the first step of analysis, to understand the current state, these tasks were examined to get an idea of the potential tasks that are not performed or poorly performed by the BA. Hence, this test shortlisted five tasks in environmental protection and four tasks in refugee control role which led to answering the first SRQ. In the second step, the author used Johnson, Scholes, and Whittington's SAF model to evaluate the shortlisted potential tasks. The test found out three suitable tasks in each role in existing state of the BA, leading to the answer of the second SRQ. Consequently, the author found the consolidated tasks enhance capability in environmental protection and refugee control role. The three environmental tasks are 1) integrate sustainable energy management practices within and beyond the institution; 2) conduct environmental education programs to raise public awareness; and 3) provide logistics and transportation support to civilian regulatory and enforcement missions. Similarly, the three refugee control tasks are 1) conduct humanitarian operations; 2) provide security and intelligence against terrorism, human and drug trafficking; and 3) support the border forces logistically by transportation and surveillance capabilities.

Recommendations

The outcome of this thesis may provide a new direction to the BA in performing a robust role in environmental protection and refugee control. However, the author has delineated only a few potential tasks through an in-depth analysis in context of present

threats. Although the functions have been elaborated in chapter 4, each task should be further scrutinized to formulate a detail narrative for the BA. The author puts forward recommendations for the implementation of the tasks in subsequent paragraphs.

For the environmental protection role, the author has four recommendations. First, the Ministry of Environment, Forest, and Climate Change should assume the role as the lead agency and incorporate the BA under “in aid to civil authority” to fight the environmental threat. Second, the BA must conduct a short and intense training program to provide personnel with basic understanding about environmental law, compliance mechanism, and rules of engagement. Third, once deployed in an environmental role, the Army field leaders should constantly engage with the ministry, local authority, and law enforcement agencies to operate in harmony and avoid duplication. Fourthly, the GOB may conduct an information campaign in parallel with the national medias to positively reinforce the BA’s benign role and the importance of environmental protection.

For the refugee control role, since the BA is already deployed “in aid to civil administration,” the GOB should employ the Army mostly in conducting humanitarian and security operations. In this regard, the author has three recommendations. First, as part of humanitarian operations, the BA should assist the Rohingya Relief and Repatriation Commission to coordinate and integrate international aid assistance, UN agencies, and NGOs to effectively direct the relief operations. Simultaneously, the BA should continue to run medical camps and construction works to improve the living standards of the refugees. Second, the Army should logistically support the agencies with security, storage infrastructures, transportation, and communication to the remote areas of the refugee camps. Third, civil authority should designate the Army as the lead for the

joint security task force comprising the Army, BGB, Ansar, and the police. The main security shall be to establish robust perimeter security and deter terrorism, and drug and human trafficking.

Areas for Future Study

For future study, the author recommends three areas for research. First, a further study on the methodical integration of refugee control and environmental protection tasks into the BA may be conducted using the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities model (i.e., DOTML-PF) of the US Army (Headquarters, Department of the Army 2013). Second, an immediate study should be conducted to delineate a standard training procedure to prepare the units in both the roles when needed. The doctrine should be revisited to include the aspects of environmental and refugee control roles in the MOOTW publications of the BA. Third, additional research may be carried out to have a seamless integration between civilian and military while performing the environmental and refugee control role. The environmental role demands study in collaborating with concerned ministry, local administration, and police. While the refugee control role has more complex research, which may emphasize on integrating with host nation administration, UN agencies, international assistance agencies, and NGOs.

Summary

There is no denying fact that the military has the capability to contribute significantly in environmental protection and refugee control roles. NTS threats have gone beyond the control of government agencies, and it is time to employ the BA to

assist civil administration to counter these threats. The tasks identified by the author shall assist the Army to enhance the capability to contribute in these sectors. So far, the BA has effectively responded to the unexpected NTS threats and national emergencies to aid the civil administration. Hence, it is expected that the Army may once again assist the government to deal with the ongoing hazards and help government to reach the economic goals within the desired time frame.

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