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"Conservation of Environment by Military-A New Dimension of Ensuring Security in Bangladesh"

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Abstract **Review Article**

After the end of cold war in1990, the traditional security threats decreased and a new set of nontraditional/ nonmilitary threats immersed among which environmental degradation and climate change are the most devastating transnational threats which not only affect human life, but also pose serious security threat to the state which might entangle military. Deforestation induces environmental degradation which could be mitigated by conserving forests. Many countries engaged armed forces/ military to conserve environment and got outstanding results. In Bangladesh, the degradation of environment already started taking heavy toll. Therefore, integrated conservation plan, predominated by military may play vital role in repairing and recovering the loss for the sustainable environment and development of Bangladesh through ensuing security.

Keywords: Traditional Threat, Nontraditional Threat, Environmental Degradation, Climate Change, Conservation, Security, Military, Deforestation.

I. INTRODUCTION

Traditionally, the primary role of the military is to defend the territorial integrity of the country from external aggression and to ensure internal security. With the end of the Cold War in 1990, the international security studies added poverty, environment, disease, intra-state conflict and etc as a new set of threats which affect human life and well-being in one word affects 'human security'. These non-traditional threats go beyond the order of a state, where the military forces might have to intervene to establish peace. The scholars, academicians and practitioners identified this new set of threats as the most common security threats in recent days. Barry Buzan, a professor of International Relations from the Copenhagen School of Peace, has established that non-traditional threats could affect individual, community, state and even the whole world [i]. These threats are preventive and indirect, and can be resolved, if appropriate measures are taken well in time. Therefore, the states today not only consider direct/traditional threats as their security challenges, but also put due emphasis on indirect/non-traditional threats which might drag the state into the threshold of insecurity. The United Nations incorporated components of 'human security' in their report (UNDP 1994) which are economy, political, food, health, environment, community and personal security [ii]. These are not common in all countries. For example, some African countries might have threats like HIV/AIDS, and bad governance which might not exist in Asian countries. But environmental degradation is found as a common security threat which increases human vulnerability and insecurity, demands national initiatives and international cooperation to resolve the issue for sustained development of the state [iii]. In the past, this environmental degradation induced climate change and threatened life which ultimately triggered many intra/ inter-state-armed conflicts causing considerable casualties. Therefore, environmental threat is a transnational threat. According to the UN Interagency Framework Team for Prevention Action report forty percent of civil wars from 1952-2012 were associated with natural resources. At least 18 violent conflict were fueled or financed by natural resources [iv]. The UN recognized climate change as a threat multiplier, because it acts as instigators of violence. In 2007, the UN announced the Darfur crisis as the first instance of environmental degradation, which turned into a full-scale genocide, where the UN had to intervene to establish peace. Therefore, many countries emphasized more on environmental issues and put them at priority while formulating their own national security policies. To emphasize the effects of environmental degradation, the chief scientific adviser of the UK, Sir

David King stated that," climate change is a far greater threat to the world than international terrorism" [v]. A group of eleven retired American generals and admirals also recommended to integrate climate change into national security and national defense strategy [vi]. The environment is a vast subject and conservation of environment demands special attention by all concerned.

Environmental degradation also initiates migration which creates another serious security threat. Internal Displacement Monitoring Centre (IDMC) in their mid-year 2020 update confirmed 14.6 million new internal displacements across 127 countries, where natural disasters caused 9.8 million displacements. On the contrary, conflict and violence triggered only around 4.8 million. A single cyclone 'Amphan' in 2019 triggered 2.4 million pre-emptive evacuations in Bangladesh with another 100,000 self-evacuated. In 2020 alone, 2.5 million people were internally displaced due to flood crisis caused by environmental degradation. Out of which, around one million people were not, able to return to their homes [vii]. Deforestation induces environmental degradation and climate change thus affects human security which ultimately might entangle military to resolve the issue. The following flow chart provides a clear idea regarding the issue.

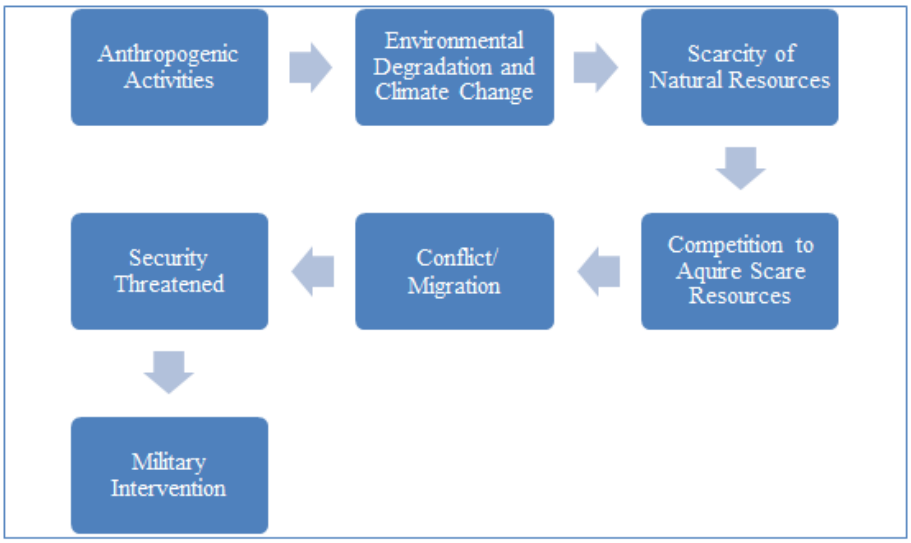

Fig-1: Flow Chart of Environmental Degradation and Military Intervention
Source: Author's Self Construct

The forests are the major contributing factors to repair and recover environmental degradation and climate change. Not only that, it has direct impact on the national economy, ecology and on security. Therefore, conservation of forest is regarded as the conservation of the environment for which many countries in the world engaged their armed forces/ military to get dividend. The natural forests of Bangladesh have been subjected to rapid depletion for decades which now has reached at a catastrophic level, already started posing security threats which need to be resolved immediately engaging military for sustainable environment and development. This paper argues in favour of engaging military in conservation of environment with a view to obtaining sustainable development through ensuring security. It will also examine relationship among environment, security, military and sustainable development.

II. Why Military For Conservation of Forest

Military for Conservation- Views of Scholars and Academicians

There was a perception among some scholars that military evicts people forcefully from forests to create, maintain or expand protected areas thereby reflecting the idea that conservation rests on the use of violence [viii]. Some scholars described military engagements in non-traditional role as decreasing its (military) operational readiness [ix]. Whereas, Finger (1991), views the military as the possible solution to environmental degradation and pollution. He also stated that the military is a useful tool to resolve the environmental crisis [x]. Robyn Eckersley emphasized positive aspects of engaging military due to the necessity by the state to intervene imminent environmental threat being faced. He also recommended the states to include the issue as "Responsibility to Protect" due to its deepening and widening effect on security [xi]. Some researchers named military as the 'new defenders of wildlife' [xii]. Eustace D'Souza, retired Major General of the Indian Army focused the potentials of the Indian Army in environmental conservation. He acknowledged and appreciated the initiative of the then Prime Minister Ms Indira Gandhi for formulating new Wildlife Act and thereafter raising six Ecological Tasks Forces (ETF) which had tremendous contribution in five states [xiii].

Military for Conservation- Empirical Evidences and Arguments

The reasons for engaging military in conservation work varies from county to country. For example, the US in 1933 led by President Franklin D. Roosevelt organized Civilian Conservation Corps (CCC) to eradicate unemployment problem, to protect natural resources and to revitalize degraded military used areas with the participation of unemployed young, ex-servicemen (World War 1) and expert people. The US Military was involved in the recruitment process and also in other important sectors. The best contributions of CCC were seen in Grand Canyon, Grand Teton, Yellow Stone National Park, battle field at Gettysburg and in Shiloh. They constructed dam, embankments, bridges and culverts along with other conservational works [xiv]. The Prime Minister of India Ms Indira Gandhi organized Ecological Task Force (ETF) in 1966 to protect the environment and to enhance biodiversity in the degraded areas. Another intension was to reemploy the retired armed forces personnel as more than 50,000 armed forces personnel retire in each year at an early age in India. In Each ETF one serving officer was deputed along with other retired armed forces personnel. India organized ETF with environment cell at Army Headquarters [xv]. Similarly, Royal Thailand Armed Forces (RTAF) initiated reforestation in 2007, later, it was assisted by International Union for Conservation of Nature (IUCN). The outstanding outcome of the effort is known to all. In Nepal, 12 Nepalese Army Battalion with independent companies were deployed in 12 protected forests with some 6778 troops in 1975. In 1994, the rhino count increased to 446 from less than 100 individuals [xvi]. Beside above mentioned reasons, the military has some unique qualities such as mobility, inter-communicability, sustainability and above all dedication for which the statecrafts found them most suitable for conservation works in addition to individual qualities (trained, disciplined, honest, village background, punctual, loyal land etc).

III. Effects of Environmental Degradation in Bangladesh

Bangladesh has five types of forests covering 23,00,000 hectares of land which is 15.58% of total land. The forests are Hill Forest, Mangrove Forest (Natural- Sundarban), Mangrove Forest (Coastal afforestation), Sal Forest and Swamp Forest. The Kaptai hydroelectric project was undertaken in 1957, which made more than 40,000 tribal homeless (Figure 2), destroyed their farmland, forest and biodiversity, and thereby initiated the first insurgency in Bangladesh is the glaring example of environment initiated armed conflict in Bangladesh [xvii]. Later, the conflict took away heavy toll on lives including unarmed civilians, which ended up with a historical 'Peace Treaty' in1997 led by honourable Prime Minister Sheikh Hasina.

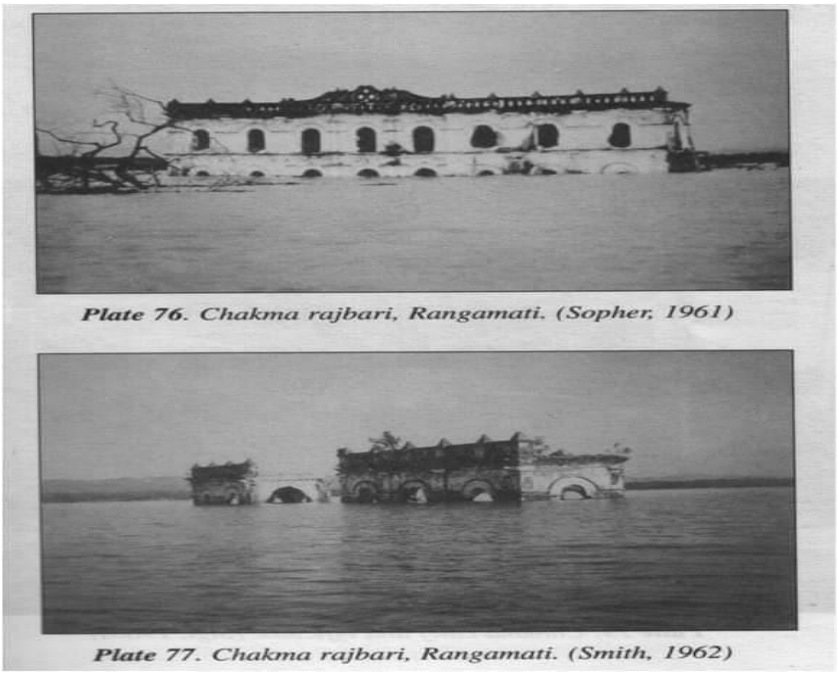

Fig-2: Effects of Kaptai Dam for Hydroelectric Project

Source: Rare Collection of Pictures of Bangladesh, http://www.facebook.com/BDoldphotos

In 1960, the government constructed coastal embankment project in south-western part of Bangladesh, which contributed better crops in initial few years and later, water logging followed by silting brought disaster as environmental issues were not addressed before constructing the embankment. In 1970, one cyclone Gorki took away more than 3,00,000 lives in Bangladesh. Since 1984-2017, Bangladesh experienced seven severe flood which affected 10,655145 people [xviii]. Again at Satkhira in 2020, 37

villages got inundated since May 2020 due to damaged embankments by Amphan, causing no crops and losing of livelihood of poor people. It also triggered internal migration [xix]. With the increase of calamities surprisingly casualty decreased due to good early warning system and other pre-emptive measures. Adaptation technique and resilience are two contributing factors for less number of casualties. Shaukat Hassan in his ADELPHI papers mentioned that continuous natural calamities decrease economic growth of a nation, destroys social cohesion and destabilizes political structures [xx].

The concept of Reserve Forest (RF) came into being in 1880s, by the then British Government. The govt formulated special rules and regulations to protect the biodiversity, reap economic benefits, increase employment opportunities, and to have a sustainable supply of timbers and water. Among these forests the CHT occupies 13,191km^2 (10%) of forest lands. It is the largest natural forest in Bangladesh having rich biodiversity and wildlife in its inventory known as 'Biodiversity Hotspots' [xxi] On earth, a very few areas are blessed with such extremely high diversity of life forms-from charismatic mega-fauna to microscopic organisms- together with high endemism. Among 34 such hotspots on earth, Indo-Burma biodiversity hotspot is one of them, having its western end at Sangu and Matamuhuri RF in CHT, the only hotspot shared by Bangladesh [xxii]. Despite having a rich biodiversity, Bangladesh has one of the lowest per capita forestland in the world with having high rate of deforestation in South Asia (2600 hectors per year) [xxiii, xxiv]. Growing need of overpopulation pose serious threat on the biodiversity and on ecosystem. According to a report of IUCN, within last one century our country has lost 31 species of wild animals [xxv]. With the loss of only one species in ecosystem the whole environmental balance collapses. Introduction of invasive/ exotic species hampers natural habitat of birds and animals and incur environmental degradation by changing climate in that area [xxvi]. For valuable wood, teak plantation was undertaken at CHT in 1871 by clear felling of natural forests. This teak is not environmental friendly and thus allow no undergrowth, animals and birds, thereby subjected to soil erosion which silted the river basins of hilly rivers causing over flowing and flooding alongside the rivers in rainy season and acute shortage of water in dry season [xxvii]. In CHT, 84% locals are dependent on forests for food, 92% for fuelwood, 45% for timber and little financial benefits [xxviii]. It has been observed that level of education is inversely proportionate to the degree of forest dependency that means forest resources could be better managed, if the forest dependent people are made educated which will shift their dependency from forest to elsewhere [xxix].

After the signing of 'Peace Treaty' in 1997, the security situation improved and huge destruction of forests and wildlife by illegal loggers and poachers noticed. Due to destruction of forests, the rivers in CHT are getting dried up creating acute shortage of headwater for cultivation which ultimately causing acute shortage of food and water in the whole area triggering internal and external migration [xxx]. Due to Jhum cultivation (slash and burn) invaluable mother trees of extinct species with some extinct species of birds and animals are also getting obscured day by day. The Ministry of Environment, Forest and Climate Change is responsible to deal with the environmental degradation and climate change, where Bangladesh Forest Department (BFD) is the field unit to ensure biodiversity and wildlife. Due to many reasons the BFD is yet to achieve its desired goal [xxxi]. Moreover, conservation is a multifaceted issue, where participation and active involvement of other affiliated agencies /departments/ institutions, experts are obligatory to make it an effective one. The impacts are likely to be worse in future if not well addressed.

IV. DISCUSSION

Integrated Conservation Plan (Icp) For Bangladesh Inception of Conservation Organization

In the preceding paragraphs three types of conservation practices by states being discussed such as (1) conservation by military (military unit raised/assigned for conservation tasks), (2) conservation by civilian conservation corps (composed of non-military personnel but controlled by military), and (3) conservation by task force (combination of military and nonmilitary personnel). Bangladesh needs to form a well-balanced National Conservation Committee (NCC) may be headed by the head of the state with well-balanced Task Forces at different tiers which may be predominated by military taking experts from concerned organizations/ department to form the body. The NCC would be the decision making body at national level with decentralized execution by TFs at lower level. The military may have Environment/Conservation cell/ Ecological Directorate at Army Headquarters. The NCC and TFs may employ/reemploy both serving and retired personnel from armed forces, forest departments, and from other discipline as and when required along with local leaders to get maximum benefit. This could be a good job opportunity for the retired armed forces personnel, as each year approximately 5000 servicemen retires from army [xxxii]. Above all, local community irrespective of cast and clan to be involved both in decision making process and also in benefit sharing for sustainable environment and development as locals have invaluable experience and knowledge of the area. The Indian Army successfully engaged local people and thereby got outstanding dividends [xxxiii]. The TFs will have its own area of responsibility (AOR) and plan. For example: In Southwestern part of Bangladesh, an integrated conservation plan may be formulated to use the area for cultivation after the tidal surge is over and therefore required number of dams/ embankments,

drainage system, and other essential elements may be incorporated in the plan.

In other areas such as Sundarban and Off-Shore Islands, the TFs will have different plan. The NCC and TFs will not only be responsible for plantation and wildlife protection, but also for all environmental issues which might affect human life and well-being. Training will be an important part of ICP for both staffs and for the target groups. Therefore, "detailed training plan" to be formulated where adaptation and resilience (which includes early warning system, climate smart infrastructure, smart agriculture and restoring nature) will be at priority. The ICP to include national security, sustainable environment and development plans while formulating policies. The ICP is to be implemented for longer duration for its sustainability. Conservation plan for hilly areas are likely to be different which is discussed in the subsequent paragraphs:

Conservation Plan at Hill

The TF would be predominated by military in CHT, as BFD is having difficulties in operating in CHT. The RF to be divided into two parts namely 'Core Area' and 'Buffer Area'. In Core Area, no infrastructure to be developed and no human being is allowed except personnel from TF and researchers/ academicians. Buffer Area is an area where all sorts of construction and livelihood arrangements may be planned and executed for forest dependents who would be relocated here. It is to include communication centre, eco resorts, safari park, small industries and cultural centres, game zones and etc giving emphasis to tourism. The age old Jhum cultivation practice of hilly people to be switched over to 'Sloping Agricultural Land Technology (SALT)' which not only would retain the soil of the area, but also would enhance soil fertility and better livelihood (Figure-3). The 'Climate Smart Model Village' with modern facilities to include healthcare and educational facilities to generate interest among the local ethnic people (Figure-4).

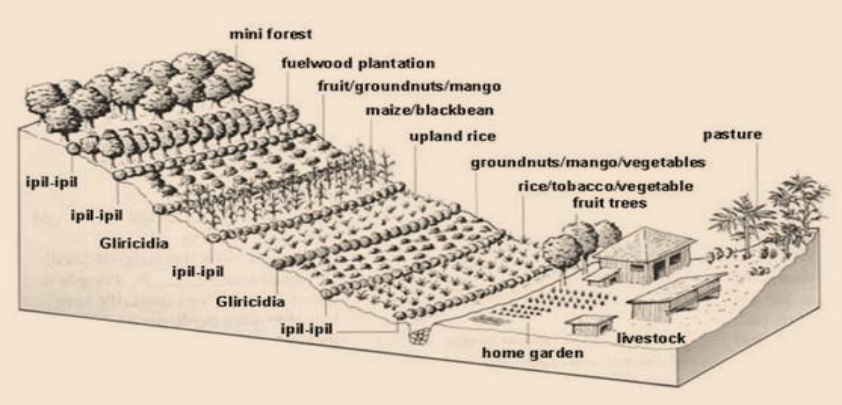

Fig-3: Sloping Agricultural Land Technology (SALT)
Source: http://www.agrowingculture.org/a-review-of-sloped-agricultural-land-technology-salt/

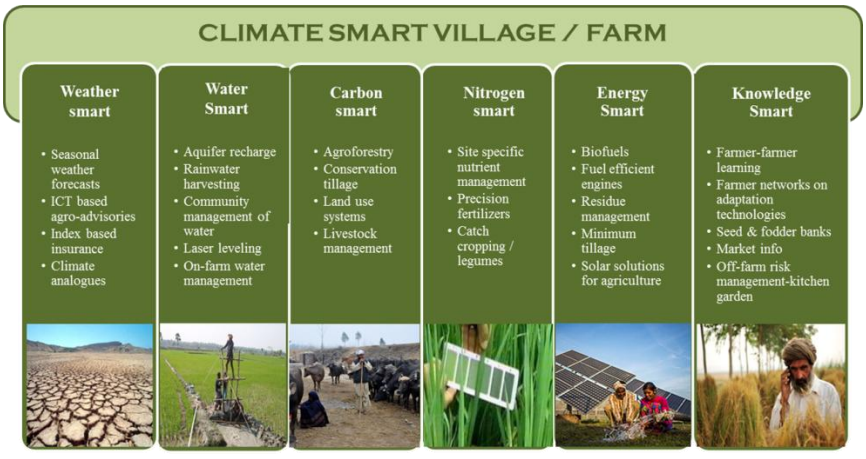

Fig-4: Climate Smart Model Village
Source: https://www.slideshare.net/cgiarclimate/climatesmart-villages-an-introduction

As CHT is a remote place and difficult for the civilian counterparts to operate and to execute the plan therefore, military might have to take lead role in some issues such as:

a. Seed Collection and Reforestation. The RFs have many threatened mother trees which are in the process of getting extinct. The military might collect seeds of those trees which gets matured in

the month of February/ March conducting routine patrol. The seeds may be dried up and seed bombs may be prepared mixing with soil and other seeds which may be dropped from the helicopters in the month of May/June in the deforested areas. This concept is widely used in Thailand and some other countries.

Fig-5: Reforesting using Seed bombs

Source:
https://www.google.com/url?sa=i&url=https%3A%2F%2Fscience.howstuffworks.com%2Fenvironmental%2Fgreen-science%2Faerial reforestation2.htm&psig=AOvVaw3IxSBo7Tqerw3o9z9pJeP4&ust=1623050958907000&source=images&cd=vfe&ved=0CAIQjRxqFwoTCKDj05S-gvECFQAAAAAdAAAAABAv

Regular Inspection and Monitoring. Uncontrolled Human influx in RF, Jhum culture, poaching and logging are the major threats to biodiversity and wildlife. The BFD is yet to achieve capacity to operate in CHT independently due to various reasons which military may accomplish without much of difficulties. Without regular inspection and monitoring, the programme won't get success. Therefore, conservation team to check the progress regularly. Routine visit/ inspection by the team not only would check the gradual development, but also would stop illegal logging, poaching and settlement practices. Various high tech gadgets with sensors may be of good use to count/ prove the presence of animals and human beings.

Fig-6: Patrol by Conservation Team in Nepal
Source: https://www.spotlightnepal.com/2019/03/04/army-day-special-nepal-army-nature-conservation/

b. Imparting Education and Training. Sloping Agricultural Land Technology (SALT) might be the best concept for the ethnic people of Bangladesh instead of age old Jhum cultivation. Besides, agro, poultry, dairy and other projects may be incorporated to shift the dependency from Jhum culture. Research found that educated people are less dependent on forest as they have better understanding on conservation system and also having better income sources elsewhere [xxxiv]. Therefore, education facilities to be made available with priority for the indigenous people at door steps with incentives.

V. CONCLUSION

After the end of cold war in 1990, the traditional security threat reduced and a new set of security threat immersed. These threats are nontraditional/ non-military which includes economy, political, food, health, environment, community, personal security and etc. These threats affect human security which might initiate intra/ interstate conflict posing threat to the national security. The states might have to master military power to resolve the conflict. Therefore, The United Nations, academicians and practitioners incorporated those factors as a part of 'human security'. Among those threats environmental degradation and climate change have become the determinant factors to formulate national policies on security issues because of its deepening and widening effect on individual, community and also on to the state. Recently, it is found that this degradation initiated disaster caused internal displacement and migration posed security threats to individual, community and to the state. Bangladesh is the worst most victim of climate change and environmental degradation due to its geographical location and anthropogenic activities by its people. Deforestation induces environmental degradation and climate change which affects human security. The forests are the major contributing factors to repair environmental degradation and climate change. Therefore, conservation of forest is regarded as the conservation of the environment. Due to massive depletion of national forests Bangladesh already experiencing its effect on security and on economy which needs to be addressed for sustainable environment and development. Therefore, Bangladesh needs to adopt Integrated Conservation Plan (ICP) to upgrade its forests immediately, where military needs to take lead role like other developed and developing countries of the world. Implementation of ICP would increase biodiversity, wildlife, arable land, sustainable livelihood through ensuring security. This ICP may be implemented for long duration with adequate budget through a state level committee (NCC) with its TFs at lower echelon to take care of forests and environmental related issues. In hilly areas due to adverse terrain condition and other difficulties the civilian counterparts may not be able to reach desired destinations frequently. Therefore, military have to be predominant to accomplish the mission. The inhabitants of hilly areas are mostly dependent on forests for their food, shelter, firewood, and for little livelihood. Therefore, ICP for hilly areas to be formulated separately where present depletion mechanism would have to be addressed considering forest dependent people. Modern concepts such as SALT, SMART village may be undertaken to enhance biodiversity, increase fertility of land, stop soil erosion and to earn financial benefit. Emphasis to be given in educating forest dependent people as level of education decreases the degree of dependency on forest. The ICP not only would stabilize the environment but also would create job opportunity

for retired armed forces personnel as they retire at a fairly early age than their civilian counterpart. It will also create job opportunity for other retired personnel and unemployed young. With the accomplishment of ICP, human security and state security would be ensured which would also bring international acclaims by fulfilling SDGs (UN Sustainable Development Goal 14: Life below Water by 2030 and UN Sustainable Goal 15: Life on Land by 2030). Implementation of ICP would also help government to achieve Paris Climate Agreement 2015. It would surely ensure sustainable environment and development which is a dire necessity for Bangladesh at present context.

VI. RECOMMENDATIONS

In light of the above discussion and the findings brought thereafter, a few recommendations are enumerated in the subsequent paragraphs:

1. Setting up of Conservation Team/ Task Force. Bangladesh may set up NCC/ Task Force immediately predominated by military as military found effective for this new security threat/ assignment/challenges. Formulation of policy with integration of affiliated departments/ organizations/ headquarters would bring better results. Long termed plan with adequate budget will ensure sustainable environment and development. The head of the state to steer the body to magnify its importance.
2. Employing Retired Personnel of Armed Forces. As military personnel retire at fairly early age. Therefore, ICP would open up a new job opportunity for retired personnel which is akin to their previous job.
3. Integration of Local communities. Without integrating local people/ communities, the plan won't be successful. Therefore, local people and communities to be integrated to get the maximum benefit.
4. Emphasis on Educating Forest Dependent People. It is proved that the educated people are less forest dependent. Therefore, emphasis to be given on imparting education to the forest dependent people to decrease their dependency on forest resources.

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