

## **Rohingya Influx and Environmental Catastrophes in South-Eastern Bangladesh**

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### **Abstract**

Rohingya influx is now becoming a great threat for the environment of Cox's Bazar district. The study has been conducted through qualitative data based such as reports of different local and international newspapers, research reports, Key Informant Interview (KIIs) and observation (overt and covert) methods. These data have been analysed by 'Narrative Analysis' techniques. The study exposes that mainly the Rohingya camps are established on the Ukhia and Teknaf upazilas under Cox's Bazar district and few camps have mushroomed at Naikhongchhari upazila under Bandarban district respectively. Physiography of the both areas is hilly and valley and also, these areas are covered by dense vegetation, particularly topographical rain forest and few deciduous forest. In these areas, nearly 6000 acres of forest land have been destroyed due to building camps for the rehabilitation of 1.3 million Rohingyas who fled to Bangladesh. Therefore, this significantly decreased the vegetation covered areas and extinct the depending community, especially animal diversity is now on the verge of extinction. Alongside, local and regional socioeconomic tension is increasing between local community and Rohingyas day by day. Besides, different types of organizations are illegally cutting the hills to establish their operational activities and office for working in the camp. So, the study suggested that conserving vegetation through plantation of little plants (Vertiver grass) for soil stability, stopping further forest degradation and destruction as a priority, emphasizing restoration

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and rehabilitation of degraded forest landscapes within the areas of interest (which is where the refugees live) and shade-bearing and fruit trees can be planted on an urgent basis along the hilltops, contours, valleys and roadsides.

**Keywords:** *Rohingya influx, Geographical Importance, Environmental Calamity and Remedies.*

### **Introduction**

Rohingya influx has now become a great threat from an environmental point of view in Cox's Bazar district as well as for the biodiversity of Bangladesh. More than 1.3 million Rohingya refugees have fled Myanmar and sought safety in the Cox's Bazar area of neighbouring Bangladesh (IOM, 2018). Before the August attacks, an estimated 328,500 Rohingya have already been living in Bangladesh, of which 28,500 are documented as refugees living in official registered refugee camps. The undocumented refugees - of which estimations vary between 200,000 and 300,000-- live in scattered settlements among the host community in Cox's Bazar. Due to lack of registration and the fact that they live scattered throughout the region, other sources estimate that already about 500,000 Rohingya were living in Bangladesh. An unprecedented influx of Rohingya refugees into southeastern Bangladesh is putting the ecologically fragile region on the brink of an environmental disaster, officials and analysts warn. As many as seven reserve forests, totaling about 6,500 acres, have been wiped out in just over two months in Cox's Bazar district as incoming Rohingya refugees cut down trees for firewood and to construct makeshift shelters. According to the forest department of Cox's Bazar it was found that Rohingya people have established illegal settlements in 1,625 acres of forestland in Ukhiya and 875 acres of forestland in Teknaf and have chopped down more than one million trees to make way for their huts, adding that the refugees were cutting hundreds of trees a day to use as firewood for cooking.

The study is based on reviews of different articles published on different media platforms, research reports and field based

observations. So, the authors and researchers identified 11 environmental impacts have been or could potentially be exacerbated by the Rohingya influx in Cox's Bazar forest division. Six of these were physical environmental impacts on: ground water; surface water; acoustic levels; indoor air quality; solid waste management; and soils and terrain; and the remaining five have impacts on ecosystems: natural forests; protected areas and critical habitats; vegetation; wildlife; and marine and freshwater ecosystems. Key risks were pinpointed and assessed based on the rating of their impact. The following risks associated with the physical environmental impacts were assessed as high: ground water depletion; ground water contamination; poor indoor air quality; poor management of sewer sludge; removal of soils and terrain; and changes in terrain. Impacts on ecosystems with high associated risks were: deforestation and forest degradation; encroachment onto and resource extraction from protected areas; changes in land cover; rapid biomass reduction; loss of species; loss of wildlife habitat and shrinkage of wildlife corridor; and higher mortality risks for wildlife. Most of the physical environmental impacts appear to be reversible, although those on soils and terrain may require considerable time to return to their baseline levels. The denuded landscape will have reduced water retention capacity which may impact ground and surface water in the area. Paramount to any reversal will be the implementation of closure of the Rohingya camps and the initiation of land reclamation plans.

## **Methodology**

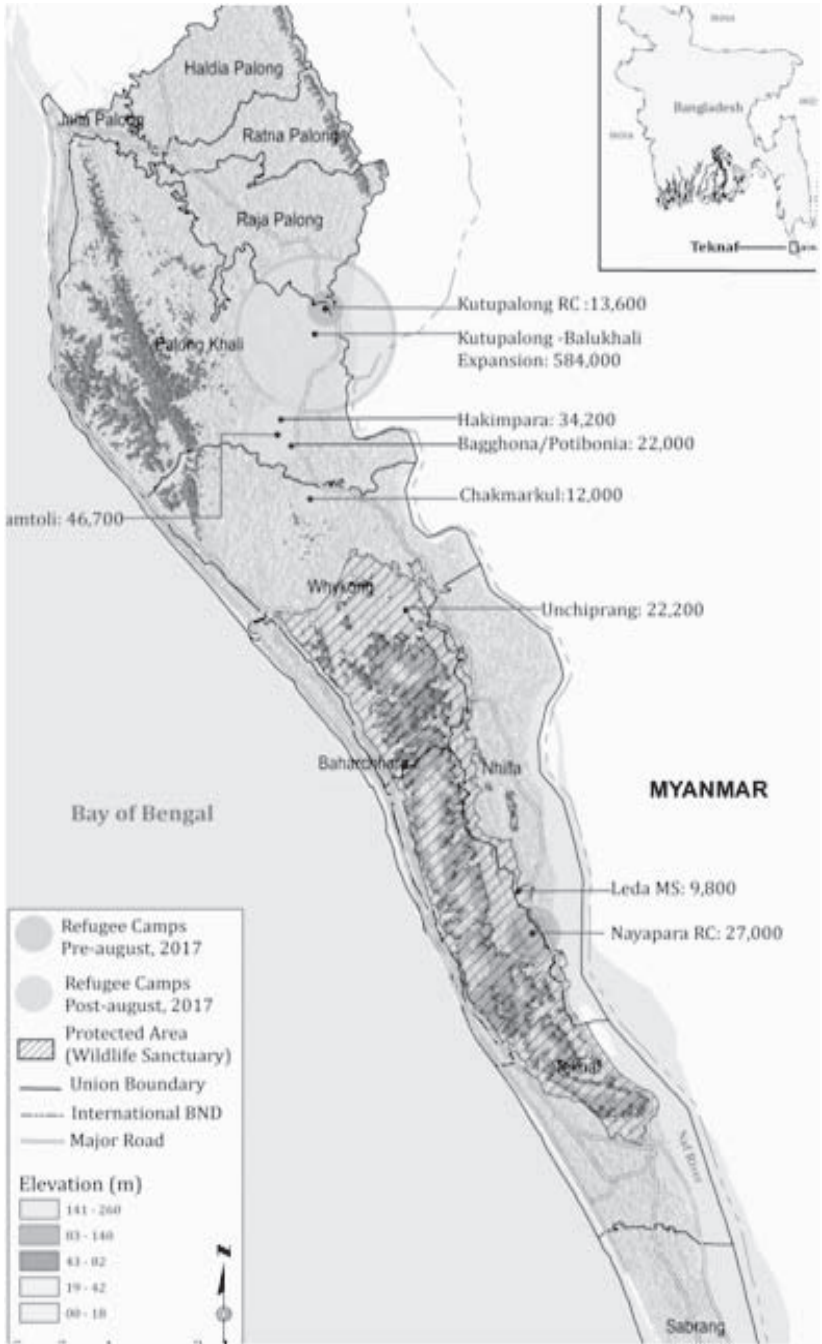
The study has been conducted through qualitative data sources. These data have been obtained through Key Informant Interview (KIIs), Focus Group Discussion (FGDs) and observation (overt and covert) methods. Along with quarterly monthly narrative reports of 'YPSA'-Young Power in Social Action, emergency responses projects. The data have been verified on the published and unpublished reports of different national and international organizations those giving financial support to 'YPSA', such as

International Organization for Migration (IOM), UNICEF, Save the Children, Care Bangladesh, Help Age International, Department for International Development (DFID), Action Aid, UN-Women, World Food Program, PKSF and so on. Meaningful data have been arranged on sequential manner. These data have been analysed by 'Narrative Analysis' techniques.

However, project managers and project coordinators of YPSA and representative of donor agencies have been considered for the respondents of KIIs checklist survey. Moreover, midlevel project staffs have been considered as the respondents of FGDs checklist survey. Each FGD group has been formed by ten officials or staffs. Also representative of local newspaper journalists, environmentalist, civil society, CSO, local community and Rohingya displaced people respectively.

### **Study Area**

Cox's Bazar Forest Division was divided into Cox's Bazar North and South Forest Divisions as per reorganization by the Directorate on 1st July, 2001. The study was conducted at Ukhia and Inani forest range under the jurisdiction of Cox's Bazaar South Forest Division (Fig. 1). The total forest area lying within the jurisdiction of Cox's Bazar South Forest Division is 43,410 ha of which 36,574 ha is a Reserved Forest while the remaining 6,836 ha is Protected Forest. These forests are situated within Teknaf, Ukhia and partially in Ramu and Sadar Upazila. Total area of Ukhia Forest Range is 21280 acres and Inani forest range is 20157 acres. The total vacant areas in Ukhia and Inani Forest Ranges are 14121 acres and 3800 acres, respectively. The topography of Ukhia and Inani Forest range is diverse with almost flat land to medium hillocks. This area has low hills of less than 100-meter elevation from the mean sea level.



## **Results and Discussion**

### **Challenges**

The refugee influx in the Cox's Bazar district has caused a significant impact on local forests and amplified human-wildlife conflict. It is estimated that the equivalent of 3-5 football fields of forest are felled every day in the area. Important national and community forestry areas, which were already under significant pressure before the influx, have been further degraded, limiting opportunities for local communities depending on forestry projects to supplement their livelihoods. Critical biodiversity areas, like the Teknaf Wildlife Sanctuary, Himchari National Park and the Inani Protected areas are likely to be degraded, and their timber and other forest products will likely be over exploited. Teknaf Sanctuary is home to a significant population of Bangladesh's Asian elephants, as well as several other threatened species, which now regularly come into contact with refugee communities.

Firewood collection is the most immediate threat to the health of these areas, but other factors will reduce the quality of the forests over time. For example, the extensive loss of groundcover vegetation in the camp has led to significant erosion, which will become especially evident in the upcoming rainy seasons, including the much-dreaded monsoon that usually starts in late May or in early June. This loss is due to site clearance and the use of low-growing plants as firewood. Low-growing shrubs and grasses - which previously served to protect waterways, reduce surface heat, slow the runoff of rainwater, and bind loose soils - are no longer present in many parts of the camps.

The erosion will contribute to landslides and higher temperatures within the camp. It will also have a major impact on downstream communities as waterways and agricultural fields become increasingly polluted by sediments carried by runoff from the camp. Since the Rohingya refugee influx started, encounters with elephants have caused 11 deaths and numerous injuries among the refugees in the Kutupalong camp. The area designated for the camp is the habitat

for the endangered Bangladeshi Asian elephants, and has historically been the site of a migration path for the mammals. Information on elephant movement is needed to safeguard humans and elephants in this area.



From the field visit, it was found that Rohingya people have so far burnt forest resources worth an estimated Tk 230 crore. They use



woods worth Tk 5 crore every day as firewood. Only 40% of the newly-arrived refugees are staying at camps. The others are cutting hills and clearing forests to build shelters. The others started staying on about 3,500 acres forestland of Ukhia-Teknaf range. A Local environmentalist said "We must ensure alternative fuel for the Rohingya to save the forest." He said he feared that the region's forest would be gone if the current situation persisted. A resident of the Balukhali camp, Jamaltold that he had maintained an acre of forestland and planted about 500 trees as a part of social forestation project. "The Rohingya refugees cut off all the trees within two days; they even wiped out bushes from the hills. The cutting of trees has been a huge financial loss for many." Sholapur ward member Md Yunus said that more than 1,000 trees from the Sholapur beach had been cut. Bunches of wood were seen piled up near most of the makeshift Rohingya sheds in Kutupalong and Balukhali. Some of the refugees were carrying bundles of tree branches to their sheds. Most of them said they were compelled to fell trees.

The Rohingya camps are situated in some of the most sensitive and biodiversity vulnerable areas including Teknaf Wildlife Sanctuary & Himchari National Park. The Rohingyas are mainly relying on the forest around the area of their camps to collect woods for cooking. Every day, around 50,000 kg firewood is needed. If this continues, it will put a substantial impact on the proposed Inani National Park and potentially on Himchhari National Park, too. There will be adverse impact on high-magnitude and large geographical area in the long run which could be irreversible, if the situation is not properly handled.

Mohammad Azad, one of the refugees, said: "How can we survive? The relief is not regular due to long queues. So I collect woods from jungles and sell them to feed my family." The Unpraching camp next to Balukhali, housing about 50,000 Rohingyas, was set up in reserved forestland. Local Court Bazar Government Primary School's Head Master Akram Uddin said: "The district will soon become a barren land if one million Rohingya continue to cut trees



for firewood." Cox's Bazar environment activist Bishwajit Sen said: "Only two months ago, both sides of the highway were filled with green forests and jungles. It is a huge loss." According to a local forest officer, the refugees are setting up shelters by indiscriminately cutting down trees and hills. The barren hills of the areas are now filled with rows of shanties. Wildlife in the area has also been affected by the encroachment. The refugees built shelters blocking an elephant trail. Last Saturday, wild elephants trampled to death three Rohingya children and a woman at Balukhali camp. Environment and forest department officials said the corridor of wild elephants from Balukhali to Myanmar via Gundhum has been completely occupied by the refugees. After the influx in late August, the forest department conducted a survey and found that until October 2, the refugees had destroyed about 2,500 acres of forestland at Kutupalong, Thaingkhali, Balukhali 1, Balukhali 2, Modhurchhara, Tajminar Ghona, Nokrar Bill, Safiullah Ghata, Bagghona, Jamtoli, Teknaf, Whaikkong and Shilkhali. Department of Environment's Cox's Bazar office's Assistant Director Saiful Ashraf said the rampant hill-cutting may trigger hill-slides, which may cost many lives. "It is an irreparable loss for our environment and ecosystem," he said. "We are conducting a survey to estimate the damages to our environment." Ashraf said: "We have to urgently plant as many trees as possible on the barren hills. A concerted effort is needed to recover from the loss."

Currently, the main intervention aims to reduce the risk of landslides and minimize conflicts between elephants and humans. The Rohingya camp is established around the place where wild elephants frequent. From September, 2017 to till date, 7 Rohingyas died due to elephant attack around the camp. Both attacks occurred outside Kutupalong, temporary home to 700,000 Rohingya refugees. The rising number of fatal elephant attacks, at least 30 in the last one year, tells a wider and tragic story of how deforestation, monsoons and the refugee crisis have left some of the world's most vulnerable people at the mercy of wild animals. Crowded together on a bare hillside at the mercy of the approaching rainy season, residents of the

sprawling Kutupalong camp - mainly Rohingya Muslims who have fled a brutal campaign of violence in Myanmar in August -live in difficult conditions. But it also sits on several important migration corridors between Myanmar and Bangladesh that elephants have used for centuries.

Expert of IUCN said that they found out that the elephants are mostly on the western side of the Kutupalong camp. In February, 2018 the IUCN released a report showing the attack sites and recommending a program of partnership with the UN refugee agency to tackle the problem. It is estimated that there are up to 45 elephants active in the area. The elephants are just trying to find a way though the corridor, Elephants respond to emotions. If you are stressed, they get stressed and people can respond with firecrackers or throwing stones. The response team tries to form a human shield and peacefully lead the elephants back to the forest. After the main rainy season, IUCN will start working to restore the groundcover to prevent further erosion and runoff. Reforestation will begin after there is a comprehensive program to address fuel supplies in the camp. There is currently a pilot trial on liquefied petroleum gas as an option for addressing the refugees' cooking fuel needs.

Cox's Bazar is another concern. In spite of being an international tourist spot, it has a great ecological contribution to the environment also. But, as a result of deforestation, the sea level rose and already swallowed many low lands around it. If the ecological balance of Cox's Bazar turns into a chaos, the outcome will not be satisfactory. Penetration of Rohingya made wildlife (especially wild elephants) vulnerable as they can't move freely for the camps.

### **Existing Laws and Strategies of Bangladesh and Rohingya Camp**

Article 18(A) of the Constitution of the People's Republic of Bangladesh talks about the protection and improvement of environment and Biodiversity. At present, there are about 210 laws relating to the environment and over 30 policies, strategies and action plan pertinent to environmental administration. Environment

Conservation Act, 1995 will come in the first place concerning the Rohingya Crisis which talks about Ecologically Critical Areas in section 5. If the Government is satisfied that an area is in an environmentally critical situation, it may declare such area as an ECA. In 1999 the government declared 8 areas as ECAs in Bangladesh, including Cox's Bazar and Teknaf Peninsula, St. Martin's Island. Those areas are not very far from Rohingya camps in Chittagong.

The Forest Act, 1927 covers forests and forest management. Availability of the forest land in Bangladesh is one of the lowest countries in the world. Due to the development process, due to deforestation, due to population, the quantity is shrinking every day; moreover, the Rohingya people are destroying a huge amount of forest rapidly. The Bangladesh Wildlife (Preservation) Order, 1973, talks about the wildlife. We have seen that due to Rohingya camps, the life of wild creatures, especially wild elephants, are now in critical conditions.

Bangladesh is a signatory of twenty international conventions, treaties and protocols in connection with conservation and protection of environment and ecology. In spite of having all those laws, protocols, treaties, according to the Environmental Sustainable Index Rank-2018, Bangladesh became 179 among 180 countries. So, it is somewhat very easy to assume that, we are in a very crucial lapse of time, regarding environment if the ecological degradation cannot be tackled within the camps. Though Bangladesh has a good number of environmental laws, still the environmental condition is vulnerable. The reason is the citizens are not aware of the impact of the environmental degradation as well as about the laws. So, here, Social awareness is the main task for the govt. to overcome this problem. The same thing will also be applicable to the Rohingya. Recently, due to a landslide in the Rohingya camp (cutting of hills without any plans, creates landslides very often in the camp areas) more than five hundred people were injured and some people died, as well. So, the message should be conveyed to them, if you want to save yourself,

save the environment through different social dialogues.

The government is planning to transfer a portion of the Rohingya to the Chars of Noakhali. This time, government should take sustainable plan. For example, sanitation, water distribution, fuel management etc. should be planned in an environment-friendly way. It is pretty understandable, having a lot of laws regarding the environment, will not change any scenario. It is the people who can make a real difference --they can create real change. If they become aware, if they are made conscious, they will be careful and clairvoyant about the environmental hazards. Another thing, as Bangladesh has taken the burden of more than one million Rohingyas, now it is also their responsibility to keep the environment healthy for the people of this country. People will definitely co-operate with them, but steps will have to be taken by the government initially, as soon as possible. Otherwise, dark night is in its way to come, to swallow all the bright lights all of a sudden.

Until it holds, the bit-by-bit efforts of building mud-track roads and bridges, digging drains, culverts and water channels, strengthening clay slopes with bamboo and sandbags have ensured some safety in a fragile environment. Shelter upgrade kits comprising ropes, bamboo, and tools have been widely distributed to strengthen fragile homes. Efforts to improve safety continue, including through the Ministry of Disaster Management and Relief-led Cyclone Preparedness Programs and its volunteers, training refugees on disaster response. Relocation of those at high risk continues as camps become more congested; vulnerable families uprooted from their homes and communities agonize about moving "yet again" away from their neighbors and village folks. Convincing the families at the risks of being on a 40-degree mud slope or in its foot is for sure a persistent challenge to the community volunteers. Latrines and water points jostle for space and, during heavy rains, merge into the other. The risk of disease is higher, and breaths are drawn as frequent water contamination tests determine results.

## **Conclusion and Recommendations**

We need to conserve vegetation since even the most unattractive small plant will provide soil stability. Partnerships have been a key to some successes --working with expert conservatory agencies like IUCN (International Union for Conservation of Nature) is a very good example: IUCN have been an excellent partner by bringing the right skills, at the right time, to manage the elephant conflict. In late 2017, UN Environment and the Office for the Coordination of Humanitarian Affairs deployed an environmental field adviser, through their Joint Environment Unit. The unit is an important source of expertise on humanitarian response in the wake of environmental emergencies. We encourage more partners to work through the Joint Environment Unit in Bangladesh to create a coherent approach to environmental programming.

UNDP has also been a key partner in reducing the risk of landslides and other disasters, and their long-term presence and history of work in Bangladesh meant that they could immediately bring their experience to bear. Actions to stop further forest degradation and destruction are a priority. Over the long term, emphasis can shift to restoration and rehabilitation of degraded forest landscapes within the areas of interest (which is where the refugees live). Early recovery actions should launch before the 2018 monsoon season given that the monsoon is the only suitable time for afforestation and reforestation due to rainfall. The recovery strategy includes:

- **Termination of Forest Clearing Activities and Promotion of Clean Cooking:** Rapid pace of forest clearing activities due to wood fuel extraction required to be stopped. In the short term, Liquefied Petroleum Gas (LPG) stoves and fuel, and improved biomass stoves can be supplied to both displaced Rohingya population and host communities to minimize the use of wood as cooking fuel, complemented by behavior change and market development activities. Medium-term activities such as subsidizing supply of LPG fuel would aim to gradually shift host communities and displaced Rohingya population households to market-based sustainable cooking

energy options, and reduce the cost of delivery of clean cooking fuel.

- **Reforestation of Deforested Land or Hills of Displaced Rohingya Population's Early Settlement Areas:** Necessary afforestation measures must be undertaken after the Forest Department (BFD) carries out an assessment to delineate areas that are under social forestry schemes. BFD's assessment must capture the degree of degradation and requirements of reforestation inputs by each individual scheme sites.
- **Greening of Deforested Hills Within Camp Areas:** Spaces across hills, such as hilltops, slopes and valleys, allow for plantation or greening under different options. Greening measures could be implemented in about 10% of the total camp areas. Shade-bearing and fruit trees can be planted on an urgent basis along the hilltops, contours, valleys, and roadsides.

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