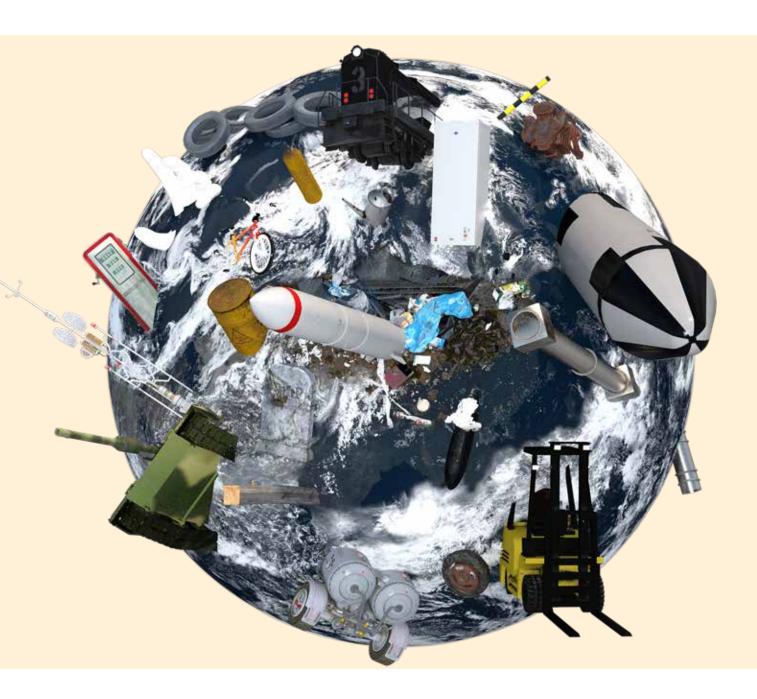
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# Climate Tribune



FACING CLIMATE CHANGE: IMPROVING ADAPTATION AND BUILDING RESILIENCE

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## CONTENTS

IMPACT	3
COALITION	6
ECOSYSTEM	9
NATIVE	12
AMPHAN	15
EMPOWERMENT	17
3R	20

# Climate Tribune



IMPROVING ADAPTATIC AND BUILDING RESILIENCE

### IMPACT



PIXABAY

## An entrepreneur's journey to resilience in his own words

MD RAFIQUL ISLAM LOST HIS JOB. THEN HE BECAME AN ENTREPRENEUR SUPPLYING SANITATION MATERIAL TO RURAL COMMUNITIES, HELPING CHANGE LIVES

### M M Jakaria and Amir Khasro

he following article is an account of the life of Md Rafiqul Islam from Bazar Road, Morrelganj Upazila in Bagerhat district. Rafiqul is a sanitation entrepreneur, trader, and businessman in Morrelganj.

With an extended family including his parents, two sisters, wife, and two children. His family belongs in the lower-income class. However, he was able to complete his Bachelors' degree, with personal dedication, effort and extra income that he saved from his school days. Being an elder son and the only educated member in his family, they had high expectations from him.

With the hope to support his family and determination to make something of himself, Rafiqul started working with an insurance company after his graduation in Jessore district of Bangladesh with a very low salary.

Rafiqul recalls – "At the same time, very unplanned though, I got married. My marriage added extra responsibilities and expenses as well. Time went by, my father grew older; had various health problems and became unable to work. Then I

It is very common that after any disaster the primary damage happens to sanitation arrangements. In remote and hard-to-reach areas, sanitation equipment are not available locally, which makes them even more costly

was the only earning member in my entire family and I was struggling to meet the basic needs. Over time, I became the father of a daughter and was thinking about how to increase my income. Then suddenly my company handed me my termination letter with one month's notice as it decided to lay off staff due to cost minimization. I was so shocked, helpless, and frustrated at that situation."

Rafiqul had to leave Jessore and return to his village. Recalling his crisis, Rafiqul said, "I tried to find another job with all my heart but I could not manage it. I could hardly run my family for 2-3 months with the savings I had. I was trying to find something, and I was almost lost. At this stage (January 2018), one of my friends informed me that the Department of Public Health Engineering (DPHE) is organizing 'Sanitation Entrepreneurship Training' in Morrelganj and advised me to participate."

Rafiqul further stated that he was completely unaware of 'Sanitation Entrepreneurship'. "I did not have any idea about how it works but I was in a state where I needed to hold onto anything I could to survive. So, I did not think twice. I decided to apply for the training as it was free of cost."

Rafiq also mentioned that others taking the training were also on the same boat with minimum knowledge and awareness of sanitation. "We did not appreciate the basic need for safe sanitation facilities. Being in the coastal region, I am a witness to existing low-quality sanitation facilities washed away by rapid and intensive natural calamities such as cyclones, flooding, and tidal surge from time to time. It is very common that after any disaster the primary damage happens to sanitation arrangements. In remote and hard-to-reach areas, sanitation equipment are not available locally, which makes them even more costly."

Nizam Uddin, who is Rafiq's local friend, played a big role in sensitizing Rafiq. "We suffer a lot for not having a proper sanitation facility. Most of the people in our village live under the poverty line. Even meeting essential needs of food and medication is difficult, so thinking of safe and well-equipped sanitation facilities proves to be out of the question. No one cares about the sanitation system. Moreover, we do not have access to sanitation commodities to buy or to get support from the Government or other institutions. Sanitation facilities are a kind of luxurious item for us," said Rafiqul.

With the eagerness to learn and understand the scope of building a potential market for sanitation, Rafiqul looked forward to his training. The training started in February 2018 and continued for three days. In the training,Rafiqul learned theoretical and practical knowledge on sanitation materials including ring-slabs for latrines, pillars, and poles with standard measurement, practice, and technique.

During the training, the trainer Tariqul Islam, who was the District Assistant Engineer, motivated the trainees by encouraging them how it can be a good opportunity for the young entrepreneurs in Morrelganj. The learning can open new areas of thinking especially in the sanitation sector. With the trainees being the first batch to get such an opportunity, there was the potential for them to be the pioneers of this entrepreneurship.

In the theory part, they had learned about business policy, strategy, and linkage issues. This type of training was very new and unique for people in Morrelganj. Backed by the lessons learnt at training, and his experience with insurance marketing, Rafiqul started his business by making ring-slab and lid for toilets. Within a few days, he got a good response and most of his products were being sold at a good price within his community. With the progress he was making Rafiqul mentioned It inspired him to invest more in building other equipment such as pillars, and poles for the latrine. "During the starting period, my average income was 8,000-12,000 BDT per month. I felt I needed more money for the expansion of the business. I consulted with the District Assistant Engineer of DPHE and shared the business plan. He advised me to contact a microfinance organization and apply for an entrepreneur loan. In September 2018, I contacted BRAC and applied for a loan of 40,000 BDT. I got it and started my factory in my house," he said.

"Unfortunately, the production was not satisfactory due to inadequate manpower or enough business expertise to handle a large amount of capital. So, I decided to hire some workers to help in material development. But being in a remote village, I did not get skilled workers. My production rate was going down day by day."

"Then, an idea came into my mind that if I trained a few people, it would be beneficial for my own sake. Then I selected the three most underprivileged women from my locality who require help and are equally interested to learn the skill. The idea worked well. I employed them in my factory with a fair wage. Nowadays, the cost of making a ring slab is Tk30 per unit. A woman worker is able to make 10-12 ring slabs every day and they receive at least Tk200-220 per day for this. Along with my family, the factory became a source of income for the other three families. Now every worker in my factory earns Tk5,000-6,000 per month."

Sabina Yasmin, a woman worker of the factory said that the work opened a wider window of opportunities for her and her family. "Now I am technically skilled to build sanitation materials and able to earn money to support my children. In the coming days, I want to become an individual entrepreneur like Rafiqul Bhai," said Sabina.

Rafiqul kept adding more workers. "With time, I kept increasing the workforce, thus expanding the production which ends in more income. I cleared all the loan burdens on time. To run a stable business, it is inevitable to take loans and so did I. I took another loan of Tk80,000. My business runs very well for around seven months a year, especially from April to October when I can sell on an average Tk60,000-70,000 per month. For the rest of the year, the average sale goes down to Tk40,000-50,000 a month. Now I have added Bondhu Chula and Cement pillars in my catalog as well."

Arzu Begam, one of the clients of sanitation products shared her views about availing the equipment on her doorstep. "It is very helpful for me that I can buy the sanitation materials from my village directly by myself at a fair price. Before the establishment of this factory, I had to depend on my husband or other male family members for bringing the sanitation materials from far away with a huge transportation cost. Now it saves our time, money, and effort," Arzu said.

Md Monirul Islam, Sub Assistant Engineer of DPHE,

Morrelganj visited the factory in August 2020 and suggested that Rafiqul to invest more in the transportation facilities of the material to the end-users. "As the local demand is very high and community people are getting the materials at a fair price, you need to focus on the better transportation of the materials to the door-step of the end-user. This facility will increase your average sales volume," said Monirul Islam.

Rafiqul found that sanitation materials are very difficult to transport in the villages which are disconnected from the mainland. "The DPHE engineer advised me to transport sanitation material by waterways (by boat) for those hardto-reach areas. I have rented one boat for Tk200 per day, as I

We suffer a lot for not having a proper sanitation facility. Most of the people in our village live under the poverty line. Even meeting essential needs of food and medication is difficult

could not afford to buy a new boat right away. Now, this boat is transporting goods in isolated areas 3-4 times a month. I plan to provide this transportation facility by my boat and at a low cost to the families living in remote areas who are deprived of healthy sanitation facilities due to lack of communication and accessibility. In 2019, I spent almost one hundred thousand taka to build a house from the profits of my business," said Rafigul.

Choosing the sanitation sector was a wise decision, Rafiqul reflects, not only for individual gain but also for the betterment and healthy living of marginal communities in the coastal region. "And it has proved to be imperative now as we experience frequent disasters affecting sanitation facilities regularly because of climate change," he said.

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## COALITION



PIXABAY

## Facing climate change: Improving adaptation and building resilience

NATIONS AND PEOPLE WHO ARE MOST VULNERABLE TO THE EFFECTS OF CLIMATE CHANGE MUST BE UNITED AND SUPPORTED BY THE WORLD COMMUNITY

### Shahrina Akhtar

xtreme weather, an undesirable consequence of global climate change, is already seriously affecting the lives and livelihoods of people all around the world, especially in Bangladesh. A low-lying terrain and a high frequency of extreme events such as floods and tropical storms put Bangladesh and its 170 million people at a high risk in terms of climate vulnerability.

Indeed, Bangladesh ranks seventh out of 181 countries in respect of climate vulnerability on the Climate Risk Index. Despite our best efforts to limit GHG emissions, global climate change proceeds unabated. Climate change being inevitable, we are compelled to live with it. This necessitates improving adaptation and building resilience.

Adaptation implies going along with existing resources, but resilience entails acquiring new talents and maybe emerging stronger from the conflict. We know that the most vulnerable people are the ones who are most at risk from climate change, and that they are also the ones who have contributed the least to it.

Now is the time for actions to face the problem squarely and create resilience, before more people lose their lives or their livelihoods. Nations and people who are most vulnerable to the effects of climate change must be united and supported by the world community. Having been exposed to the elements for a long period now the people of Bangladesh had to learn to adapt and build resilience. Adaptation and mitigation are top priorities for both the government and the civil society in Bangladesh. There are several instances of effective government-led and community-based adaptation efforts, many of which are backed by international partners.

The first noteworthy achievement mentioned by the UN Climate Chief is adaptation to climate change impacts, which is now considered as vital as decreasing GHG emissions. Simultaneously, expanded technical assistance is now available for countries to manage climate change-related loss and damage, bolstering global efforts toward resilience building. Following COP26, a work program has been established to define the global target for adaptation, which will aid in the mitigation of climate extremes that are already occurring in all parts of the globe.

### Five priorities for adaptation and resilience at COP26 in Glasgow

The supply of climate funding to low-income countries is considered top priority. Low-income countries are the most vulnerable to climate change impacts, although they contribute the least to GHG emissions. Adaptation is primarily funded by the Global Environment Facility (GEF) through the Least Developed Country Fund (LDCF) and the Special Climate Change Fund (SCCF). The United Nations Framework Convention on Climate Change (UNFCCC) seeks to raise \$100 billion per year to help low-income nations adapt to the effects of climate change and build resilience.

However, current financial attempts have fallen well short of this goal. It is critical not only that the funds be provided, but also that access to those be made easier for those who are most in need of adaptation financing.

The recompense of people who have been harmed by climate change is the second priority. The Warsaw International Mechanism (WIM) specifies that individuals affected have the right to compensation when the limits of adaptation are reached and irreparable losses and damages ensue. High-income countries, particularly the United States, have impeded efforts to resolve the WIM's finance issue.

Whether funds could be pulled off from GEF, reducing the amount of money available to low-income nations for

The first noteworthy achievement mentioned by the UN Climate Chief is adaptation to climate change impacts, which is now considered as vital as decreasing GHG emissions

adaptation, is a contentious subject. With a change in US leadership, recognizing the need for extra funding outside of GEF and identifying potential sources of funding may become more feasible.

Enhancing multi-level cooperation is the third priority. While worldwide policies on climate adaptation are considered and agreed upon, implementation is dependent on national and sub-national actions. Climate change adaptation, in particular, is context-dependent, which means that effective multi-level collaboration is reliant on local actors' ability to initiate and sustain positive changes.

National Adaptation Plans (NAPs) is a tool that allows low-income countries to identify and address adaptation

National Adaptation Plans (NAPs) is a tool that allows low-income countries to identify and address adaptation priorities priorities. The development and mainstreaming of NAPs with the UN Sustainable Development Goals (SDGs) still requires assistance. Furthermore, measures for scaling up local adaptation information to inform NAPs are critically needed.

At the COP25 in Madrid, the promotion of a genderresponsive climate policy through the unanimously agreedupon Gender Action Plan (GAP) was a major accomplishment. However, GAP lacks precise criteria and parameters for determining success. The setting of the fourth priority at COP26 has been consequent upon this. The fourth priority at COP26 is set to clearly define indicators and targets for tracking progress, as well as to guarantee that this success is built on by securing appropriate funds and having the political will at the national and sub-national levels to implement GAP.

The fifth priority should be to push for further climate justice legislation to be passed. While the GAP is undoubtedly a step in the right direction, other measures for those groups disproportionately affected by climate change, such as indigenous communities, marginalized groups, and young people, must be implemented. In addition to adopting new policies and mandates, setting clearly defined indicators and benchmarks for measuring progress is critical.

Adaptation is also a financial necessity. Investing in adaptation and the creativity that comes with it, according to the report of the Global Commission on Adaptation, can open up new doors and spur change all around the world. Adaptation has the potential to produce a triple dividend: it can prevent economic losses, generate positive results, and provide additional social and environmental advantages. There are some bright spots, but the response has been woefully inadequate so far.

Meanwhile, the climate crisis is already here: wildfires are destroying fragile habitats, city taps are running dry, droughts are scorching the land, and floods are destroying people's homes and livelihoods. Climate change is affecting people all over the world, as recent events have demonstrated. In addition, if nothing is done, millions of people would be pushed deeper into poverty spurring violence and instability.

It's a question of equity when it comes to adaptation and resilience. When dealing with affected groups, from residents of informal settlements in South Africa to coastal communities in Mauritius, the need for climate change equality becomes clear very quickly. While COPs have many flaws, the collaborative nature of dealing with climate change necessitates their creation if they do not already exist. Supporting the COP26 priorities could help alleviate the unavoidable burden of climate change on those who are disproportionately affected.

Shahrina Akhtar is an agricultural scientist specializing in Agricultural, Environmental & Development Research working at the Krishi Gobeshona Foundation (KGF) based in Dhaka, Bangladesh.

### ECOSYSTEM



PIXABAY

## First year of the UN Decade on Ecosystem Restoration: Nature-based solution (NbS) and Bangladesh

WHERE DO WE STAND AFTER COP26 AND WHERE TO GO?

### Sakib Rahman Siddique Shuvo

he United Nations called for the UN Decade on Ecosystem Restoration for the protection and revival of ecosystems around the world and for the benefit of people and nature. To achieve global goals it aims to halt the degradation and restore the ecosystem.

Whereas, nature-based solutions or NbS are actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

# Like 2020, last year there were some scientific peer reviewed journal articles and policy briefs published on NbS

Though conceptually, NbS is not a new thing, however, this term has been getting popular in academic discourses and policy realm in recent years.

### NbS in 2020

In Bangladesh, discourses on NbS have been going on for a while. In 2020, in between the Covid pandemic and its consequences, various initiatives on climate emergency and disaster management took place in this country. In an Op-Ed, Haseeb Md Irfanullah wrote about three milestones regarding NbS in Bangladesh.

Firstly, a portal on NbS activities in Bangladesh was launched, which became a repository of various NbS related documents and publications. This platform, in collaboration between the University of Oxford, UK and the Bangladeshbased International Centre for Climate Change and Development (ICCCAD), helps to mainstream nature-based Solution along with building a network on this issue.

Secondly, there were plenty of publications and discussions all along the year which made the topic popular among the researchers, especially young researchers. Finally, the third milestone for NbS in 2020 took the NbS conversation to a higher level, in policy and advocacy realm so that this can be integrated with the country's planning processes.

The year 2021 followed the path of the previous year. This article will capture some insights from the first year of the third decade of this millenia, in terms of nature-based solutions.

#### Scientific articles and policy briefs

Like 2020, last year there were some scientific peer reviewed journal articles and policy briefs published on NbS. In November 2021, a systematic review article published in the journal named 'Frontiers in Environmental Science' by AC Smith and five other authors to address the knowledge gaps in terms of NbS and climate actions specifically focused on Bangladesh.

In Mid-2021, an policy analysis by Islam et al published in the 'Journal of Science Policy and Governance', which reviews relevant national level policy documents from past three decades to investigate NbS as a potential framework to address climate change and societal challenges. Both of the articles have reviewed documents to provide a clear cut view

Bangladesh-based publication Climate Tribune, a climate change focused monthly magazine, declared a special issue on nature-based solutions, where authors wrote about various sides of NbS interventions on NbS and Bangladesh in the scientific and policy realm.

A policy brief on tackling climate change with naturebased solutions in Bangladesh was also published in 2021, with some recommendations for the policy makers focusing on four success factors.

### Newspaper reflections and op-eds

In january 2021, the Bangladesh-based publication Climate Tribune, a climate change focused monthly magazine, declared a special issue on nature-based solutions, where authors wrote about various sides of NbS interventions.

There were articles about NbS and locally-led adaptation, Urban NbS, Climate-induced displacement and NbS, environmental restoration and refugee protection, carbon capture, indigenous knowledge, financial aspects of NbS, and financial aspects of conservation actions. There were other articles and op-eds on NbS published all along 2021.

In the Daily Star, an article published on urban NbS to promote NbS for towns and cities which are exposed to various disasters. Another article covered the opportunity of NbS to fight disasters in the Indian Ocean region.

In February another article on NbS showed the potential of floating agriculture as a Nature-based Solution. Finally a very recent article which connected the dots between nature and prosperity in Bangladesh, also talked about the Nature-based Solutions.

#### **Conferences and symposiums**

In January 2021, International Centre for Climate Change and Development hosted a session at Gobeshona Global Conference 1 on building capacity for NbS. The session focused on enhancing the understanding on NbS implementation and ways to increase them. NbS also was a matter of talk in the COP26, which was held in the last quarter of 2021. In a press release, it has been said that the Nature-based Solutions win in science and on the ground.

#### **Grants and projects**

In august 2021, ICCCAD received a short-term small-grant on "Understanding the economic recovery potential of naturebased solutions (NbS) in Bangladesh". The goal of this project is to enhance understanding of the short- and longterm economic recovery potential of investments in nature and have this knowledge inform the design of economic, climate, and development policy for the Global South where ICCCAD will contribute to explore the economic recovery potential (ERP) of NbS in Bangladesh.

In 2021 the discourse on NbS reached substantial maturity in professional and journalistic literature. Scientific articles on policy as well as knowledge development gave a solid base of argument, whereas newspaper articles and policy briefs have taken the discourse further to the non-academic communities. In 2021 the discourse on NbS reached substantial maturity in professional and journalistic literature

Furthermore, conferences helped the concept to be mainstream in a more subtle way. Covid 19 taught us that the future will be a time of multiple disasters at a time.

It is evident that, without considering nature, it will be impossible to further develop society. Nature-based solutions can be a great tool in this regard, especially in vulnerable countries like Bangladesh.

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PIXABAY

# Listen to the wisdom of local people

WE'RE ALL IN THE SAME STORM, BUT WE'RE NOT ON THE SAME BOAT

### Joep Janssen

he Dutch national weather service presented its latest report on sea level rise recently. It's stated very clearly: If we don't succeed in reducing greenhouse gas emissions, the sea level along the Dutch coast will rise up to 1.2 metres by the end of this century – compared to the beginning of this century. This may rise even further to 2 metres if the melting of the Antarctic accelerates. What happens when the water rises even more?

I live and work in Rotterdam, the heart of the Dutch delta. The people in this low-lying region have been dealing with high waters since generations. They have dealt with many floods, including the last one, the North Sea Flood during the night on 31 January 1953. After this natural disaster many people joined forces to repair the dikes. It's not all gloom and doom.

Communities in this region created flourishing trading cities. There is also an ongoing effort to keep our feet dry, to keep this region safe. That's a bit at the heart of our water professionals at consultancy firms and water boards who are working together on our flood defence network, such as the ambitious flood defence system Delta Works.

We are fortunate to have these kinds of resources and capabilities to deal with rising sea levels. But only up to a certain point. What happens to other delta regions around the world where everyday people live in fear of something similar to what happened in 1953 in the Netherlands?

The Mekong Delta in Vietnam is one such example. It's comparable to the Netherlands in terms of population, density and size. Both low-lying areas have the same preconditions, but different solutions and cultures to cope with floods, salinisation and land subsidence.

The Dutch government, for example, has full control over the water management system. So much so, that I don't realize that I live in a vulnerable delta. The climate is changing: the sea level is rising, intense rainfall and drought events are increasing. Thankfully, I don't have to worry about this, because the government will fix it.

But what do I do if a dike breaks tomorrow and my house in Rotterdam gets flooded by one metre and 20 centimetres? Are Dutch people self-reliant and resilient enough when our neighbourhood floods?

Unlike my hometown Rotterdam, the river delta is 'feelable' in Can Tho – the capital city of the Mekong Delta in Vietnam. The tide of the sea is noticeable in the city centre; neighbourhoods are affected by heavy monsoon rains, and street levels fall by up to ten centimetres a year. This is why self-reliance and resilience are in the DNA of all communities in the Mekong Delta. It's born out of necessity, because residents are more or less left to their own devices.

In general, solutions are not centrally controlled. There is no Delta Works yet or a dike around the city to protect residents against flooding. Therefore the people vulnerable to flooding, themselves, take the initiative to protect their homes, their belongings and merchandise by themselves.

During my first travels through the Mekong Delta in 2009, I learnt that we have to learn from Vietnamese people how to become resilient.

What happens to other delta regions around the world where everyday people live in fear of something similar to what happened in 1953 in the Netherlands?

I strongly feel that problems on water can't be solved without considering the indigenous solutions by locals – the farmers – who deal with the problems in their own innovative ways. They have been developing skills and know-how to deal with water challenges for generations.

Among all those interesting people I met, one person made a lasting impression on me. It was Mr Long, who lived in Chau Doc, along the Mekong river. Mr Long became a part of my morning routine, as we drank coffee and he told me stories of how Vietnamese adapt to water challenges.

That's when I also got to know how important community participation is, in solving water problems. Mr Long introduced me to the local communities, who were helping each other to solve problems on water. Every month, for example, the families in his neighbourhood come together to solve disputes and collect money to raise the level of the streets as an adaptation measure to combat floods.

Mr. Long taught me how we can harness the shared knowledge of communities to solve complex problems related to water.

After meeting Mr. Long and his Vietnamese friends, I can say that the Mekong Delta holds a special place in my heart. They inspired me to write the book Living with the Mekong.

After completing this book in 2016, I started Nextblue, a storytelling platform about water and climate change. Here, we present the stories of exceptional resilience, hardships and courage of people living on the edge of climate change.

You may say that these stories bind local communities and give them a platform to be heard. The idea is to get their views and voices incorporated in the plans developed by professionals. Therefore, we have developed a three-step approach: Training local communities to produce water and climate stories; Co-produce articles and videos; And share their stories during live events and online campaigns for meaningful climate actions.

It won't be an exaggeration to say that we are more an association of those communities affected by water, than a website collating stories.

So what do we achieve through our work?

We bring to the table a crucial missing link in devising strategies to combat climate change – the local context – to the policymakers.

These stories need to be heard to cope with climate change because the people affected by it are its primary stakeholders. These are stories from the heart: it reflects the emotions of people to adapt to water and climate challenges in the heart of the most vulnerable delta regions around the world.

At Nextblue, we believe the problems of climate change can be tackled only through an integrated approach. We use storytelling as an integrating tool to create a more resilient and inclusive future!

These stories let you think about what you can do to mitigate and adapt to climate change.

We're all in the same storm, but we're not in the same boat. If we want to fix climate change, we have to listen to the wisdom of local communities in the most vulnerable delta regions around the world.

Joep Janssen is a delta expert who became fascinated with storytelling after having lived in Vietnam for four years. His career in architecture and journalism has given him the creative tools to identify the underlying structure to successful narratives. As the founder of Nextblue, Joep amplifies stories that attract a wide audience in the water world. He can be reached at: joep@next.blue. Unlike my hometown Rotterdam, the river delta is 'feelable' in Can Tho — the capital city of the Mekong Delta in Vietnam



# Lessons learnt from cyclone Amphan and the way forward

CYCLONE AMPHAN SHOULD BE TREATED AS AN EYE OPENER AND FORESHADOWING OF WHAT IS TO COME



PIXABAY

### Samina Islam

B angladesh - a country with one of the highest rates of vulnerability to disasters and extreme weather event is a major rea of discussion for climate change related experts, academicians and development practitioners. After the devastating cyclone Amphan, which left several coastal districts shattered in May, 2020; numerous studies, reports and articles have been published - focusing not only on the after effects of the disaster but also on solutions, what is working and what is not and how to do better.

Cyclone Amphan left the affected people in despair as many lost their households and livelihood with little opportunity to recover; and the sufferings are still continuing. Last year in May, to look back on the one year anniversary of cyclone Amphan, Climate Tribune published a special issue with nine articles focusing on the untold stories from the ground and the sufferings that remained pertinent long after.

The April 2021 special issue highlighted the destruction and long-term effects left by cyclone Amphan in the coastal

Another important way forward is to empower local communities and engage them in disaster risk reduction programs such as putting local governments and communities in control of coastal embankment maintenance region of Bangladesh. The affected people were forced to leave home and migrate in search of work and food, as many villages were submerged, damaging households and agricultural land. After migrating, these people had to change their professions to work as rickshaw or van-pullers and leave their farming days behind - triggering mental health issues due to a loss of identity.

Following the damages, many of these people had to take loans either to repair and rebuild houses or to migrate to new settlements which in turn threw them in debt burden.

While these are some of the linear effects of cyclones in general, cyclone Amphan also came at a time when the whole world was struggling with COVID19 and Bangladesh was no exception. It led to additional challenges that the country

Following the damages, many of these people had to take loans either to repair and rebuild houses or to migrate to new settlements which in turn threw them in debt burden

struggled to cope with during the recovery phase. A more concentrated area of the effect of cyclone Amphan and other previous cyclones, as came out in the issue, is the water crisis.

The coastal regions had to face a severe drinking water crisis as the areas were inundated by saline water after the cyclone. Even though technology such as pond sand filtration (PSF) is available – required follow ups, repairments and maintenance is a major lacking. On top of that, people were unable to collect water from far or other villages due to the lockdown situation – showing the compound challenges that became evident in 2020.

While the issue evidently showed the gloomy side of cyclone Amphan, it also highlighted several success stories and potential way forward to tackle disasters like this more effectively in future. For example, Bangladesh has achieved great progress in minimizing cyclone-related deaths and injuries during the last 30 years. The country made significant progress in the early warning system, recruitment of trained volunteers (CPP), the number of cyclone shelters, and increasing institutional capacity. However, there is a lot of space left for improvement; especially in terms of reducing the loss and damage to livelihoods.

One way to do this is to build several cyclone resistant houses instead of constructing one cyclone shelter - in order to reduce the need to travel far and accommodate more affected people. Early warning systems also need to be translated and delivered to the communities in simplified languages for them to understand and prepare accordingly.

Another important way forward is to empower local communities and engage them in disaster risk reduction programs such as putting local governments and communities in control of coastal embankment maintenance. Awareness building is a major part of disaster preparedness, and a unique way to do this is by adapting traditional storytelling methods - as highlighted in the issue. Pattachitra song - a traditional and popular medium among local people was used as a tool to explain pre-, during and post-disaster activities through a project. This proved to be a success as the local people easily understood and listened with more attention than in conventional awareness raising campaigns.

The issue portrayed the overall scenario – from showing the lingering struggles and challenges from cyclones to emphasizing on the positive changes and suggesting ways that can serve as a template for not only development practitioners but also government officials and policy decision-makers.

Cyclone Amphan should be treated as an eye opener and foreshadowing of what is to come. The twin challenges of COVID19 and cyclone Amphan showed what a multifaceted and complex chain of disasters looks like – which has the potential to become more regular in the days to come. Furthermore, climate change is evidently contributing to an increase in the frequency and intensity of cyclones. Countries like Bangladesh are at the front line of some of the worst impacts of climate change; coastal communities that rely on agriculture and fishing are particularly heavily hit and forced to displace.

After cyclone Amphan, the country was again devastated by cyclone Yaas last year which had a direct effect on 1.5 million people and 26,000 houses were destroyed in several districts. To reduce livelihood loss and damage, collaborative effort by the government, NGOs, humanitarian and local level organizations, community leaders, as well as the private sector is vital. Moreover, climate induced loss and damage in vulnerable countries also needs to be a major point of discussion in the global platforms to avail necessary finance required to make climate resilient developments and ensure actual climate justice.

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## Reflecting on Women Champions in Climate Action from 2021

BECAUSE WOMEN ARE AMONG THE MOST CLIMATE VULNERABLE GROUPS, HAVING THEM AS LEADERS WILL HELP TRANSFORM MARGINALIZATION INTO EMPOWERMENT



### Towrin Zaman

nternational Women's Day 2021 was celebrated with the theme of 'Women in Leadership: Achieving an Equal Future in a Covid-19 World". In line with this theme, the March 2021 issue of Climate Tribune not only celebrated women leadership in and the women champions of climate change, but also exclusively featured articles by women contributors only.

The articles in the issue drove home the message that women are one of the groups hardest hit by climate change and highlighted their feats in climate change action which from an adversarial position is beyond impressive. It also accentuated that women participation and leadership need to be scaled up even more to bring transformational change to climate change action.

Articles highlighted struggles and triumphs of women as local champions – such as Mastura Parvin, Unit Leader of Cyclone Preparedness Program (CPP) in Satkhira; Lipika Rani Boiragi, Association for Social Development and Distressed Welfare at Dacope in Khulna; Afroza Begum Alpona, the The importance of women participation and leadership in climate change action was one of the primary messages resonating through the articles of the March Issue of Climate Tribune

Adaptation should be viewed not from the lens of measuring climate change impacts but rather from the perspective of climate vulnerability

Vice Chairman of Union Parishad and member of Disaster Management Committee from Kurigram.

They also illustrated the influence of women as national climate activists - such as Jannatul Mawa, Youth CSO leader from BINDU Nari Unnayan Shongothon in Satkhira - and impact of global women activists - like Greta Thunberg - on encouraging more participation and engagement towards the climate movement particularly from the youths and women.

Gender dimensions of Water and Sanitation and Hygiene (WASH) and migration issues were also explored along with the role of women in locally-led adaptation (LLA) in the Issue. That transformation can only come from collaborative efforts and climate services that are gender responsive as echoed by the articles. Climate services and adaptation technologies should be gender responsive and that can be achieved through equity and social inclusion.

For this to happen, adaptation should be viewed not from the lens of measuring climate change impacts but rather from the perspective of climate vulnerability. Only when adaptation is viewed as a bottom-to-top process and it addresses the inequalities that have created the climate vulnerabilities in the first place, the gender dimensions of climate change impacts will be addressed.

Transformational change is also the most effective when they are addressed through bottom-up approaches as illustrated in the issue through stories like that of Anita, a true climate champion. Anita is the poster child of the rural women who are the more climate-vulnerable group and face greater health risks in a household from the WASH issues arising from climate change. Anita is also an inspiration for other rural women on how empowerment can be achieved through gaining knowledge and building skills to be more climate adaptable.

It should be acknowledged that women like Anita are able to achieve successes because of institutional support which helps create an enabling environment for women empowerment in triumphing against climate change. The March Issue highlighted different initiatives and projects by organizations like UN Women, ActionAid, WaterAid, ICCCAD and other local NGOs that have helped capacitate rural women in overcoming climate vulnerabilities and achieving resilience.

The importance of women participation and leadership in climate change action was one of the primary messages resonating through the articles of the March Issue of Climate Tribune. In fact, the role of women in addressing climate change induced issues should be celebrated because their contributions are often neglected, as highlighted in an article which cited stories of women as change-makers in water and migration issues.

The challenges addressed by the articles in the March Issue for achieving gender equality in climate action include climate services and projects led by international entities, which address adaptation at different levels, but struggle to reach the last mile and integrate the voices of underrepresented groups like women.

In fact, many of the articles emphasized the importance of the climate vulnerable groups including that of women having their voices heard. Stories of the local women exemplify this problem of how they have to struggle to have their voices and opinions heard in their own households, let alone the community. This challenge demonstrates the importance of locally-led adaptation and transformational change, which need to begin at households and then at communities and so on and so forth. That is why local efforts in climate adaptation will be most integral in achieving successes.

Going back to the theme of Women's Day for the year 2021, achieving an equal future can only come from women leadership. Because women are among the most climate vulnerable groups, having them as leaders will help transform marginalization into empowerment.

Interestingly, the theme for the upcoming Woman's Day for 2022 has been declared as "Gender Equality Today for A Sustainable Tomorrow". This theme recognizes the contribution of women across the world, who are leading the charge on climate change adaptation, mitigation, and response to build a more sustainable future for all. This takes us back to the message about the importance of having the voices of the women being heard. Again, that can only be accomplished through first acknowledging and then celebrating their contributions.

Towrin Zaman works as Research Associate at the International Center for Climate Change and Development (ICCCAD) Going back to the theme of Women's Day for the year 2021, achieving an equal future can only come from women leadership

## The benefits of mainstreaming circular economy in school textbooks

INCORPORATION OF THE SIMPLIFIED CONCEPT OF CIRCULAR ECONOMY IN SCHOOL TEXTBOOKS CAN INFLUENCE OUR CONSUMPTION BEHAVIOUR AND RAISE AWARENESS ON CLIMATE CHANGE



Afsara Binte Mirza and Meer Ahsan Habib

oes our consumption behaviour have any impact on climate change? Yes, it has - it is driving climate change. Now the million-dollar question is how. When we waste food while dining at our home, we not only waste food but also waste energy and other interrelated elements like water it needs to grow, resources required for harvesting, transportation and processing.

Besides, when the food rots, it produces greenhouse gas like methane. For instance, the Matuail landfill nearby Dhaka is a major source of methane produced from the dumping of household waste.

Food consumption is not the only source of producing unnecessary waste, there are ample cases where we are producing similar waste without knowing or without caring for the environment and its impact on climate change.

Should there be less waste, we would have produced a much lower quantity of methane. While we can reduce methane emission by improving our waste management system, we have our share of responsibility in reducing our consumption, reusing a product and recycling the waste.

Here comes the concept of circular economy (CE) that is one of the latest economic models that aim to halt and minimize the current production and consumption trend based on "linear economy." The circular economy (CE) is built on the basis of 3Rs – reduce, reuse, recycle.

According to Ellen McArthur Foundation, CE is established on the idea of creating something brand new out of waste and pollution; keeping the products and materials in use as long as possible, and regenerating ecosystems and biodiversity.

The attributes of CE have the potential to help in tackling climate change through waste management; reduction in air pollution; creating low carbon and resource-efficient economy; and practicing regenerative agricultural practices. Even though the progress of CE solutions needs appropriate technology, finance, business models, and policies, it is clear that behavioural alteration and consumer embracement are vital aspects for its effectual implementation. This can be instigated through education which can define the interdependence of human life and the natural environment.

The active engagement of the children and young people from the primary to higher secondary schools is vital for bringing transformation in thinking processes through raising awareness on sustainability which will facilitate the execution of circular behaviours.

The behaviours include actions such as recycling waste, reusing existing material, and renting out current belongings. This will have multifaceted and long-term benefits ranging from becoming an informed and motivated citizen for protecting the environment to reducing personal carbonfootprint and helping to tackle climate change from a young age.

In Bangladesh, there are more than 100,000 non-English medium and English medium primary schools operating. Hence, there is ample opportunity for raising awareness and influencing the future consumption behaviour of the children. The incorporation of a simplified concept of circular economy in the textbooks starting at the primary level and upward can be an ideal entry point for realizing this objective.

It will require the phenomenon where teaching methods move away from traditional lecture-focused and disciplinecentered methods and take into account a participatory and multi-disciplinary system of thinking which can support students in learning about sustainable production and consumption.

For instance, it will be crucial to make children aware of the biodegradable and nonbiodegradable qualities of paper, plastic and other materials; using energy-saving electrical appliances; minimizing food waste by converting them to fertilizers; and sorting out waste and management of resources like water. Here comes the concept of circular economy (CE) that is one of the latest economic models that aim to halt and minimize the current production and consumption trend based on "linear economy." The circular economy (CE) is built on the basis of 3Rs — reduce, reuse, recycle.

In urban areas of Bangladesh, the annual per capita plastic consumption rose from 3kg in 2005 to 9kg in 2020 (World Bank, 2021). It is not surprising that Dhaka's yearly per capita consumption of plastic is 22.5 kg which is greater than the national average. Additionally, COVID-19 endemic has exacerbated the waste management issue for plastic. On the other hand, Dhaka has been stated as the world's most polluted city through the air quality index (AQI) in 2022. Thus, it is crucial more than ever to adopt the circular economy's principles in Bangladesh to safeguard future generations' existence and tackle climate change swiftly. The incorporation of a simplified concept of circular economy in the textbooks starting at the primary level and upward can be an ideal entry point for realizing this objective

However, enhanced capacity-building is required for teachers and tutors in Bangladesh, as they are the key players in convincing the students in creating a circular and sustainable society. The training sessions for teachers can be assisted through peer-to-peer educational programs, collaborative projects, innovative and practical lab sessions to embrace circular systems. The modules and courses have to align with local traditions and be easily translated into Bengali for non-English medium schools.

The Ministries of Education (MoE); Environment, Forest and Climate Change (MoEFCC) and Primary and Mass Education (MoPME) may conduct a feasibility study on assessing the possible impact of introducing the concept of the circular in conserving the environment as well as contribute our battle against the impact of climate change.

These ministries in collaboration with other stakeholders can have consultations before establishing policies that resonate with the core values of the circular economy. This process will help formulate national policies holistically by valuing the local and traditional knowledge in rural, urban and remote areas, and be receptive to the changes in the market.

National level policies on climate change such as the National Adaptation Plan (underway), Mujib Prosperity Plan, Bangladesh Climate Change Strategy Action Plan 2009 can play a vital role in facilitating the mainstreaming of the circular economy in the education system. This can most likely be a catalyst for achieving several SDGs through new and greener value chains, green skills, employment, and innovative products while simultaneously addressing social and environmental drawbacks.

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