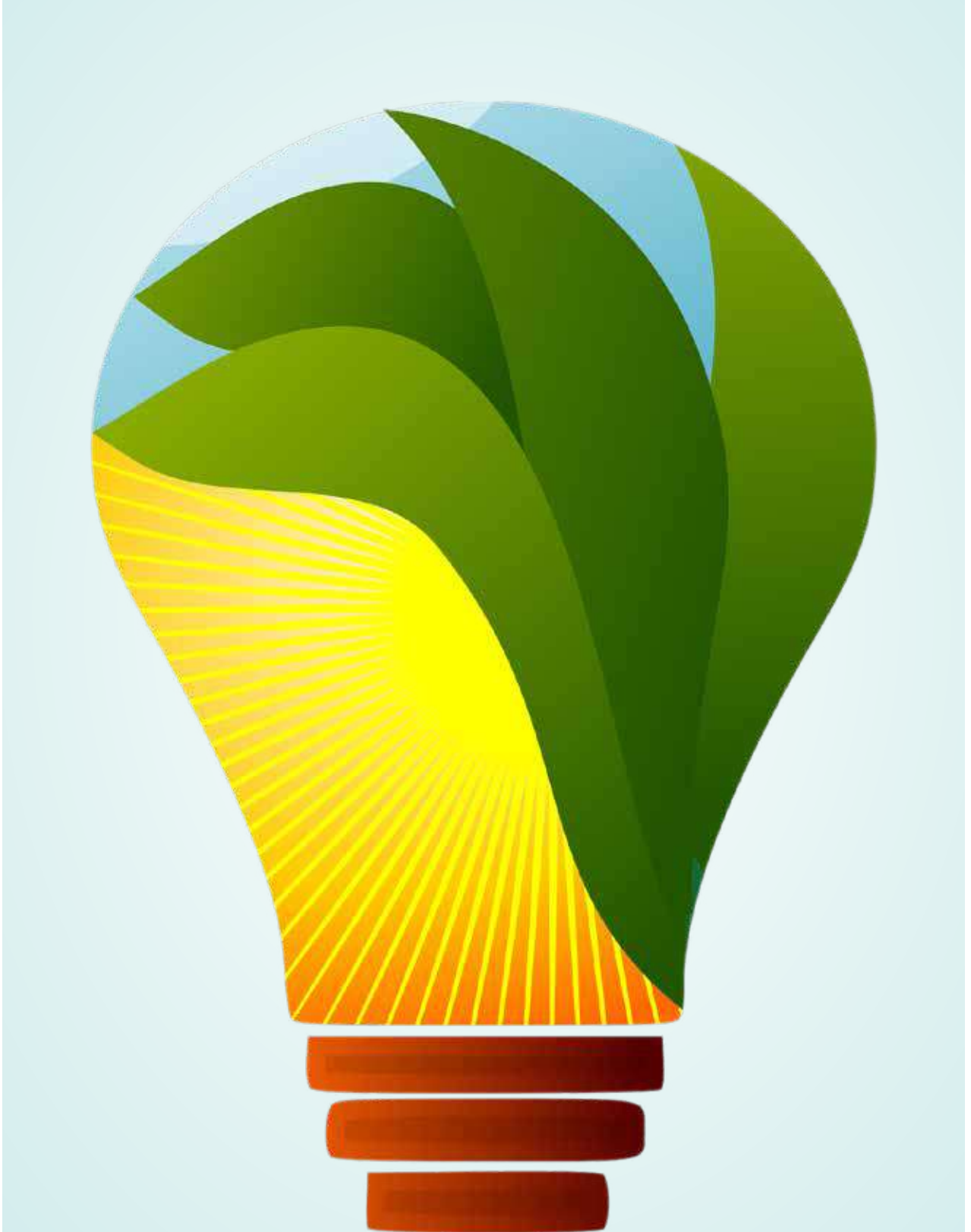


SATURDAY, JULY 31, 2021

CT | Climate Tribune



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EDITOR'S NOTE

Dear Readers

This month's issue focuses on a very important matter: relation between climate change and the private sector in Bangladesh. Specifically, we wanted to look at the mitigation and adaptation aspects of climate action.

The stories published here do this mainly through profiling companies that have undertaken different initiatives toward mitigation and adaptation.

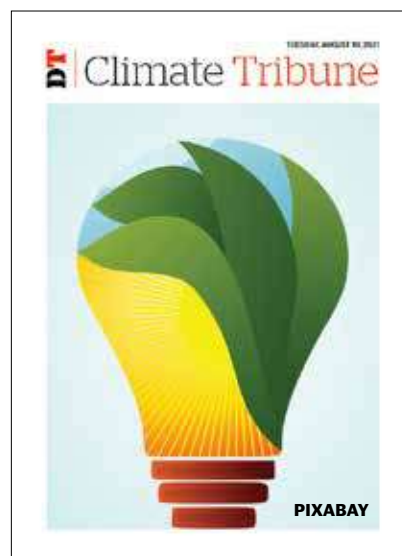
Alongside, they also provide important context needed for a broader perspective.

One particular fact which Bangladesh needs to pay much attention to is that pollution has dangerous impact at the local level.

The fact that Bangladesh is not a polluter on a global scale – while an accurate statement – should not distract anyone from the very urgent need for curbing pollution.

The companies profiled here have shown that reasonable and modern measures can be employed to mitigate pollution and climate change impacts. But it is also clear that more must be done and at scale. ■

ON THE COVER



CONTENTS

- 3** 'Bangladesh is a nano-emitter globally but the emissions have serious impacts at the local level'
- 6** Peer-to-peer solar grids can be key to drive forward renewable energy
- 8** How the DBL Group managed to save 1.3 billion litres of water
- 10** Climate and water: Leveraging private sector engagement for sustainable development
- 14** Three Bangladeshi women advocating sustainable fashion
- 16** Kazi Farms reduces emission by producing organic fertilizer, but it could do much more with higher composting capacity
- 18** Addressing climate risks in the agricultural sector: How can the insurance industry help?
- 20** Bayer's initiative to improve income of smallholder farmers through sustainable agricultural practices can be a model for Bangladesh
- 22** Kazi & Kazi Tea mitigates climate change impacts by using innovative and nature-friendly farming methods
- 24** How Grameen Shakti is providing a sustainable renewable energy solution in rural Bangladesh

'Bangladesh is a nano-emitter globally but the emissions have serious impacts at the local level'

Interview with Prof Mizan R Khan



Saqib Sarker

To preface this issue of Climate Tribune – which looks at some aspects of the role of the private sector in climate change – we interviewed one of the leading experts in climate change policy in the country Professor Mizan R Khan.

Deputy Director with the International Centre for Climate Change and Development (ICCCAD), Professor Khan coordinates the LDC Universities' Consortium on Climate Change (LUCCC), an official program of the LDC governments. He also represents ICCCAD at the ACT2025 platform, which is a consortium that convenes key stakeholders to discuss, identify and guide ambitious outcomes at UN climate negotiations.

INTERVIEW

Here is an edited excerpt of the interview

What are the important issues in relation to private sector industries and climate change? Can you give us an overview?

In Bangladesh now private sector contributes most of our GDP, with the public sector as an economic agent becoming an insignificant player. Since the last 50 years of our independence, private sector is maturing in its profile as the main engine of growth. The role of service and manufacturing sectors is increasing gradually, and that of agriculture is going down as share of GDP.

However, still the private sector is treading the polluting path of development, contributing most of our pollution load. Look at Dhaka city or its surrounding environs! What is the quality of water in the surrounding river waters including Buriganga? It's pitch black and stinky. Even in rural areas



In terms of addressing climate change, private sector is not yet coming forward to make their own investments and assets more resilient against the impacts of climate change

poultry farming and indiscriminate use of chemical fertilizers are wrecking havoc on the fresh water rivers and canals. Actually, rapid economic growth for the last three decades and also poverty are imposing twin pressures on the environment in Bangladesh.

In terms of addressing climate change, private sector is not yet coming forward to make their own investments and assets more resilient against the impacts of climate change. There are few issues that stand in their way to go cleaner and low carbon pathways. Technology, capacity and above all, awareness and motivation are main factors behind the current state of pollution and emissions.

What kind of data is available regarding environmental pollution caused by the private sector?

Here we have a serious gap – in data generation, for which

we need appropriate technologies to measure different types of pollution – both in-house and external, that the private sector agents generate. Here the Department of Environment and the NGOs can play a big role.

Bangladesh isn't a big industrial country. So is there any meaningful contribution to climate change by Bangladesh industries?

Bangladesh as a low-income country is just taking off in its industrialization process, where role of the manufacturing sector is not yet big – about 20% of our GDP. Overall, Bangladesh emits still less than half a ton of carbon dioxide per capita, against say, 20 tons in the US, or more in Australia. So, in that sense, Bangladesh is a nano-emitter from global perspective.

But this level of emissions has serious impacts at local level – in terms of air pollution, causing so many respiratory diseases. Dhaka city is ranked as one of the least livable cities in the world, where all types of pollution are creating a havoc for the civic life of the citizens.

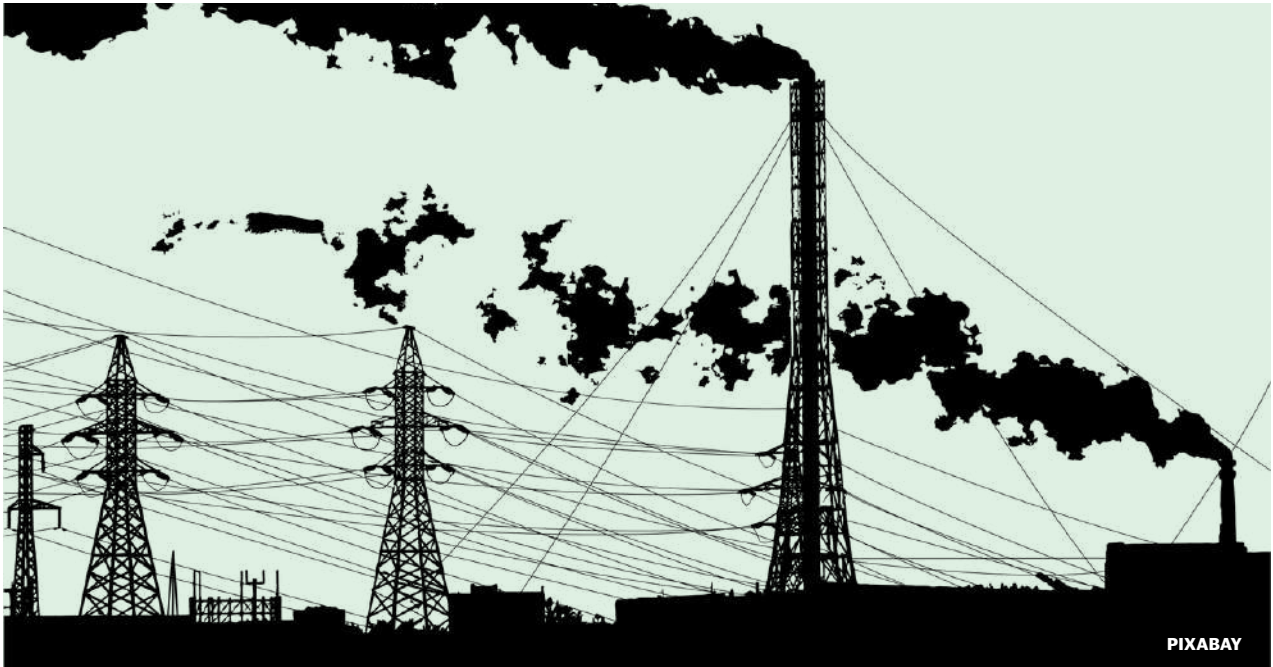
How much do current government policies/legislations align with international standards/best practices in pollution and mitigation?

In terms of government policies, acts, plans and strategies, Bangladesh is a pioneer in developing countries. During the last decades Bangladesh has developed a good policy-legal framework, compared to many other developing countries. For example, We have the new National Environment Policy, the issue of environmental protection has been included in our Constitution under amendment 18Ka back in 2009 by the Awami League government.

Also the Climate Change Strategy and Action Plan of 2009 has been updated, which is in its final stage of fine-tuning. The government has adopted a very long term Delta Plan 2100, along with Vision 2041 and others. Bangladesh is regarded now as a global leader of adaptation and resilience and in disaster management, which has been acquired through our experiential learning over ages and this has been matched by some appropriate policy-institutional frameworks to handle climate and natural disasters.

But the main lacuna in environment management lies in the practice – in enforcement of government plans, rules and regulations, which is very weak. There is a lack of transparency and accountability both on the part of the public and private sector regulators and economic agents. On the other hand, the citizens of civil society groups do not have direct access for seeking redress of pollution through legal actions.

The space that is there is very cumbersome and time-consuming, which discourages citizen groups to seek remedy. So, Bangladesh is still treading through the lowest rung of the pollution curve. Experience showed in the past that when a country reached the level of \$5,000/6,000 per capita, the pollution curve starts bending down. But we have now only



\$2,000 per capita income. So, we don't know how much we have to tolerate pollution. This is a great challenge to our health and environmental quality, which is likely to compromise our long term economic growth.

Do we know what causes largest pollution from the private sector?

As there is no exact measurement of contribution to pollution load by different sectors, it is hard to say exactly which sectors contribute how much. But with common sense, we can say the power sector, cement manufacturing, building and construction sector are among the highest polluters of greenhouse gases and other pollution, such as solid and air pollution. Also the agriculture sector – rice production, livestock sector and chemical-fertilizer based cropping and poultry sector are great polluters.

What are the most urgent steps private sector companies should take in order to address pollution and climate change?

There are a number of steps that the private sector can take to do a hop-step jumping in bending the pollution curve.

First, there are many win-win options to control pollution and take a cleaner path. For example, promoting energy efficiency, energy conservation and promotion of clean energy should be given a boost. Things in this regard are improving, but at a very slow pace.

Second, our private sector still looks at investment for cleanup or environmental protection as an expenditure, not as investment. This is not right. However, there are positive examples also. For example, quite a number of garment man-

ufacturing industries are the cleanest in the world, perhaps the highest number in the developing countries. This is needed to survive in the competitive world, where green consumerism is on the rise, particularly in buyer countries.

Third, the government is providing quite a number of incentives to the private sector to promote clean and green growth. Bangladesh Bank also has elaborate package of incentives, originally initiated by the former Governor Dr Atiur Rahman. But the response from the banks, financial institutions and other private sector actors were not and still are not encouraging. The reasons behind this lethargy needs to be looked into.

We cannot forget that if we want to survive as a competitor in this world, we have to go clean and green. Internationally, there are good opportunities for funding as soft loans. The GCF, for example, has a private sector facility, which supports the developing countries' private sector agents, particularly for mitigation projects, but from Bangladesh, not many proposals have been submitted yet by the private sector, except by IDCOL.

Finally, there is a need for capacity building of the private sector, in terms of raising awareness, training and other modes of enhancing capabilities of private sector agents. In this regard, our universities like the IUB can initiate semester-long certificate course to young and mid-level managers of private companies. There is no alternative to improving learning, ie software and hardware in terms of new and clean technologies. They may cost a little more, but the dividends will be better than holding on to old and dirty technologies. ●

Saqib Sarker is journalist at Dhaka Tribune.

Peer-to-peer solar grids can be key to drive forward renewable energy

Bangladesh-based SOLshare has already helped reduce 75,000 kilograms of carbon emission by the end of 2020 through its solar grids and wants to double that by the end of 2022

Magnus Mayeen Ahmed

As we enter a crucial decade for the restoration of the earth, a pressing matter we have in our hands is revolutionizing the norm of using fossil fuels like coal and gas for the generation of electricity, a procedure which constantly produces and adds on to the existing air, water, and land pollution. Solar energy from the sun provides us with the solution to this problem.

When electricity is produced from solar panels, no greenhouse gases are released into the atmosphere and with the sun producing more energy than we can ever consume, electricity generation from solar power stands out as the single most realistic and essential energy source in the quest to clean energy production.

To get insights on the renewable energy scenario and the private sector's contributions to the energy revolution in Bangladesh, we reached out to SOLshare to comprehend their work and vision. SOLshare is a company in Bangladesh that has adopted and brought about a revolution in how we perceive and utilize solar power.

The company was started by Dr Sebastian Groh, who visited Bangladesh as a part of his PhD research on the role of energy in development processes. On his initial visit to Bangladesh, he was astounded by the existing solar home system program in Bangladesh but one alarming issue he observed was that the excess energy produced is wasted.

When the sun is at its peak, it keeps producing massive amounts of energy but the batteries which are already fully charged cannot store the excess energy absorbed by the solar panel. It became clear to Dr Groh and his colleagues that energy usage flexibility and profitability provide the much-needed path to sustainable development. Thus, SOLshare's journey began in the Shariatpur district of Bangladesh.

To address the issue of energy wastage, which Groh estimated to be worth up to a billion dollars per year, SOLshare initiated a system for people to turn their excess solar electricity into tangible profit in the form of mobile money.

SOLshare started the SOLbazaar, an IoT (Internet of Things) driven platform which is a dynamic energy marketplace where Solar Home System (SHS) users can sell their excess energy to people who do not use SHS or cannot afford



To address the issue of energy wastage, which Groh estimated to be worth up to a billion dollars per year, SOLshare initiated a system for people to turn their excess solar electricity into tangible profit in the form of mobile money



SOLshare technicians fitting solar panels

COURTESY

it. This is an appealing prospect for the common people as sellers can make money off it and people who cannot afford SHS, get access to affordable electricity.

The SOLbazaar is a game-changer for rural Bangladesh. Through this platform, people of rural Bangladesh, people who are from remote areas and the lowest echelons of the society are getting increasing and affordable access to renewable energy. There are already over 60 solar grids from SOLshare installed throughout the country, with over 6,000 people benefitting from solar energy.

This is 6,000 people switching to a far superior and sustainable method of electricity generation which puts a massive and much needed dent on the emission of greenhouse gases. The company through its solar grids has already helped reduce 75,000 kilograms of carbon emission by the end of 2020 and wants to double that by the end of 2022.

Moreover, as the solar power grids are decentralized, it makes them far more resilient to natural disasters. This ensures rural people getting access to electricity even in the face of adversities such as heavy rainfall, flooding, etc.

The SOLbazaar is compartmentalized into 3 crucial aspects – the SOLbox, SOLapp, and SOLweb. The SOLbox is a bi-directional DC electricity meter that allows peer-to-peer electricity trading, smart grid management, remote monitoring, mobile money payment, and data analytics.

Whereas, the SOLapp manages customer portfolios and the SOLweb is where all the information is collected, assembled, and analyzed to comprehend system patterns and ab-

normalities. These aspects team up to help connect multiple households to smoothen the process of energy sharing.

SOLshare is a pioneer of renewable energy-based peer-to-peer trading platforms and is the first of its kind in the world. The company has revolutionized the energy consumption scene in rural Bangladesh and continues to look forward to further scope for innovation and clean energy consumption.

SOLshare will be piloting Point of Common Coupling (PCC) this year which will further enhance the company's quest to drive forward renewable energy. The company aims to have more than 100 solar grids throughout the country by the end of 2021, with more than 10,000 people benefitting from it.

SOLshare was initiated with the vision to provide customers from even the lowest echelon of the society with an affordable, reliable, and most importantly clean source of electricity. So far, the company has been successful in providing just that and are looking forward to charging ahead with its revolutionary methods as it firmly believes that the future of energy is decentralized, decarbonized, democratized, digitized, and disruptive. ●

The information provided in this article is collected from an interview conducted by the author with SOLshare's Salma Islam, who is the Head of Projects, Fundraising & Communications.

Magnus Mayeen Ahmed is a Communications Officer at the International Centre for Climate Change and Development.

How the DBL Group managed to save 1.3 billion litres of water

Programs by international organizations promoting clean production prompted the Bangladeshi conglomerate to approach manufacturing in a new way

Saqib Sarker and Saudia Afrin

From packaging to pharmaceuticals, the DBL Group owns a wide array of businesses. A family owned business founded in 1991, the DBL Group evolved into a diversified conglomerate in Bangladesh since its inception.

Its businesses include apparels, textiles, textile printing, washing, garments accessories, ceramic tiles, dredging, semiconductor design, ICT, and telecommunications. With a dedicated workforce of 39,000 employees, the annual turnover of the group for the year 2018-19 was \$600 million.

Climate change related awareness and initiatives by DBL group began in 2012, informs Mohammed Zahidullah, Head of Sustainability at the organization. “Our journey for climate positive started in 2012 with Cleaner Production of IFC (International Finance Corporation),” said Zahidullah.

IFC led Advisory Partnership for Cleaner Textile (PaCT) is a program that supports the entire textile value chain - spinning, weaving, wet processing and garment factories in adopting Cleaner Production practices. It engages with brands, technology suppliers, industrial associations, financial institutions, government to bring about systemic and positive environmental changes for the Bangladesh textile sector and contribute to the sector’s long-term competitiveness and environmental sustainability.

“We joined this program through H&M, which is one of our major customers and nominated us for the program,” Zahidullah said.

The areas that the DBL Group worked on in relation to clean production evolved over the years. The more attainable goals are the ones that don’t need much investment – the “low hanging fruits”. There are then the “mid-hanging fruits” (which do require investment but can be recovered quickly), and high-hanging fruits, which would require larger investments and more time to make the money back.

“The financing that came in only allowed us to achieve the low-hanging fruits. The reason being, achieving the higher goals would have required for us to stop production and implement the interventions. This was not viable given our scale of production,” said Zahidullah referring to the primary initiatives his organization took.

But the interventions that they did implement made them appreciate the benefits, allowing the organization to take measures that it would not have taken before.

“Today we have invested in rainwater harvesting, which people are very hesitant to do. We are also moving into water recycling and reuse. We are going in that direction.”

Zahidullah says their participation in this program and further steps contributed toward a change of attitude within the industry. Indeed, DBL’s success even found a place in the pages of the New York Times.

By investing \$80,000 to upgrade equipment like boilers and dyeing and rinsing machines, as well as implementing simple fixes like insulating steam pipes and fixing leaks, DBL managed to cut its water usage by half. Before, DBL used 120 litres of water to produce a kilogram of cloth; now it uses 60 litres.

By contrast, many factories in Bangladesh use as much as 170 litres of water to make one kilogram of cloth.

“Between the period of 2012 and 2016 we annually saved 1.3 billion litres of water and was able to reduce 705,975 tons of CO₂,” said Zahidullah.

DBL also plans to install 10MW of solar power plants by 2025. “By 2030 we want to bring down the GHG emission by 25% from the current level of 140,882 tons to 105,561 tons.”

Over the years, DBL participated in a number of other programs such as Partnership for Cleaner Textiles, Sustainable Action and Vision for a Better Environment (SAVE), Carbon Performance Initiative (CPI2), Clean Energy Solutions and Energy Efficiency Engagement (3E). “These programs have helped us in increasing resource efficiency and reduction of GHG emissions,” said Zahidullah.

As recognition of the measures it took, DBL received the score of “C” in the recently released report by the CDP, an international non-profit organisation that helps companies disclose their environmental impact.

“DBL is amongst 17% of companies that reached the Awareness level in the Activity Group of textiles and fabric goods. This is higher than both the Asia regional average of D and the textiles and fabric goods sector average of D,” Zahidullah said. ●

Saqib Sarker and Saudia Afrin are journalists at Dhaka Tribune.

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Gafur Gazi stands with the bike he uses to collect clean water. With HSBC's help, WaterAid built his community in Burigualini, Satkhira a pond sand filter plant. This passes water from a collecting pond through a number of sand and gravel filters, making it safe for drinking

Climate and water: Leveraging private sector engagement for sustainable development

A platform to bring together private sector and development partners for working together to tackle water and climate change is essential

Shahrin Mannan and Faysal Abbas

In the year 2021, global demand for energy-related CO₂ emissions is projected to grow by 4.8%, as demand for coal, oil and gas rebounds with the economy. The world's seven richest countries, together known as the G7 countries, contribute about 30% of global emissions currently. One of the positive outcomes of the Paris Agreement on Climate Change back in 2015 was a pledge from the rich countries to provide \$100 billion a year, starting from 2020, to help the poorer countries tackle climate change through mitigation and adaptation actions.

As part of that promise, they have to kick start channelizing the finance from 2020, which in reality, has not likely been delivered. It is difficult to pin-point how much was actually delivered. Estimates show that perhaps \$70 to 80 billion might have been delivered in 2020. Delivering the deficit for 2020 as well as another \$100 billion for 2021 will be the test for the developed countries.

Since the announcement of climate finance from developed countries, one major demand from the vulnerable developing countries for a long time has been to allocate 50% of the climate change fund to support the adaptation measures. But in practice, only 20% of climate finance provided has gone to support adaptation.

While climate finance is already weak compared to the estimated needs of the vulnerable countries, the share of adaptation finance is minimal, pushing adaptation to take a back seat. The mobilization of the existing climate finance to the most vulnerable is also questionable. Data indicate that only 10% of the money provided for adaptation could be tracked to the most vulnerable communities.

Bangladesh's reality

Bangladesh is exceptionally vulnerable to climate change owing to its low elevation, high population density coupled with poor infrastructure and heavy reliance on natural resource-dependent livelihood. It is estimated that, by 2050, with a pro-

jected 50cm sea-level rise, the country will lose 11% of its land affecting 15 million people living in the coastal region.

The effects of climate change are first felt through changes in water cycle. Impacts of climate change on water systems include damage to infrastructure from flooding, loss of water sources due to declining rainfall and increasing demand, and changes in the water quality of water sources and within distribution of water. Sanitation concerns include damage and loss of services from floods and reduced carrying capacity of receiving wastewater.

These changes have a direct impact on the sustainability of water and sanitation services and behaviours. Access to improved water, sanitation and hygiene are critical for socio-economic development, healthy environments and vital for reducing the global burden of disease. Moreover, the availability of secured sources of water, improved provision of durable sanitation and reliable hygiene mechanisms increase the adaptive capacity of vulnerable communities during disasters.

The impacts of two recent cyclones, Amphan and Yaas, and monsoon floods amid the global pandemic on the local communities have also emphasized the importance of access to safe water, sanitation, and hygiene (WASH) facilities in building stronger adaptive capacity to climate change. In 2020, Bangladesh experienced flood damages costing around \$476 million in repairs and reduced WASH benefits. As a region with a high proportion of emergency and fragile context responses, it is important to consider how to move from humanitarian to sustainable WASH solutions.

Private sector engagement is key to tackling climate change and build resilient WASH services

Bangladesh government has made significant progress in financing climate adaptation measures. The country has been



Since the announcement of climate finance from developed countries, one major demand from the vulnerable developing countries for a long time has been to allocate 50% of the climate change fund to support the adaptation measures

allocating climate budget in 25 key relevant ministries and in FY 2020-21, 7.52% allocation of the total budget of 25 ministries/divisions is climate-relevant.

While the public sector finance in climate change has been praiseworthy, there is a clear need of increased engagement of private sector in both climate adaptation and mitigation through innovation and technological advancement. In crucial sectors like water, sanitation and hygiene, the private sector can play a key role in expanding water and sanitation infrastructure and improving the efficiency of water system.

Businesses engagement to mitigate some effects and adapt to others, to protect the communities and foster sustainable economic growth is need of the time. Despite such need, the role of the private sector has been minimally leveraged in this area. Only a handful of big companies and private entities have come forward in the aid of communities with innovative technologies and services to ensure sustainable WASH services and reach to the poorest as trendsetters in Bangladesh.

HSBC, a leading global financial institution is one of those companies which has been investing in sustainable WASH solutions. It is committed to a transition to a global net-zero economy, through mobilizing finance and accelerating innovation. Syeda Afzalun Nessa, Head of Corporate Sustainability, HSBC Bangladesh, said that HSBC took up an ambitious plan last year to prioritize sustainable financing and investment to transit towards a net zero economy.

Coming out of the Corporate Social Responsibility (CSR) loop, HSBC is devoted to Corporate Sustainability (CS) by investing on long term climate solutions. In 2012, HSBC launched its Water Programme to tackle the global water crisis in partnership with Earthwatch, WaterAid and WWF. During this 8-year long program, HSBC and its partners strengthened systems for clean water, decent toilets and good hygiene for communities in six countries including Bangladesh.

Throughout this initiative, which has taken place in five climate-vulnerable and hard to reach areas of Bangladesh, almost 26,000 people have been reached with clean water in their houses and communities; more than 70,500 people were reached with decent toilets and 65,000 people were reached with hygiene promotion activities.

They have worked with local government and raised female entrepreneurs to achieve sustainable clean water, decent toilets and good hygiene for the most vulnerable. Female hygiene is highly prioritized in HSBC's work; in Bangladesh, HSBC together with WaterAid has distributed hygiene kits to school-going girls, raised awareness on menstrual hygiene at community level as well as in important sectors such as RMG.

Scaling hygiene in climate prone areas demonstrated by HSBC is replicable. Apart from investing on water technologies and services, HSBC is also contributing to building adaptive capacities through provision of livelihood support and skill development in climate vulnerable regions. With an outstanding portfolio of investments in climate adaptation,

WASH

HSBC is now planning to support towards energy efficiency and transition towards a net zero economy.

Unilever Bangladesh has also made remarkable contributions when it comes to sustainable WASH solutions. In order to fight climate change and protect nature, Unilever has put forward a climate transition action plan with an ambitious commitment to reach net-zero carbon emission by 2039.

According to Shamima Akter, Head of Corporate Affairs, Partnership and Communications, Unilever Bangladesh, Unilever has launched three products to contribute in achieving SDG 6, namely, clean water and sanitation. These are Pureit water purifier to ensure clean drinking water, Domex disinfectant toilet cleaning brand with innovative product suitable for Bangladesh to ensure safe sanitation, and Lifebuoy hand wash to ensure proper hygiene.

Early this year Unilever's brand Pureit – in collaboration with Aspire to Innovate (A2i), Dhaka WASA, Department of Environment (DoE), 2030 Water Resources Group (2030 WRG),

produce biodegradable products by 2030, they are investing on products that are washed off after use, which includes laundry, household cleaning, skin cleansing, oral care and hair care products.

In order to encourage new businesses, Unilever under its global initiative TRANSFORM is collaborating with eight young entrepreneurs in Bangladesh to create new business solutions in the areas of good health and wellbeing (SDG 3) and clean water and sanitation (SDG 6). The TRANSFORM initiative is focusing on marketing and sales to increase the demand for SWEEP services for fecal sludge management as well as transforming South Asia's water crisis into an entrepreneurial opportunity by using a micro-franchise model to provide clean drinking water.

While the contributions of big companies in sustainable WASH solutions have been inspiring, there is a clear need to build the readiness of the rest of the private sector to invest on sustainable WASH solutions and climate-smart initiatives.

Key recommendations for enhancing collaboration

A platform to bring together private sector and development partners in realizing the critical challenges and working together to tackle water and climate change is essential. Progressive companies across all sectors hold great power to change the tide against climate change and therefore can transform their own financial prospects while ensuring wider services to communities. There is need to work together with focused technical expertise to build the case for mitigation and adaptation investments in Bangladesh.

Lack of understanding of co-financing and Public Private Partnership (PPP) concept by many central and local agencies of the government needs to sync in cohesion with other sector actors. Poor sustainability concern among private entities, lack of understanding of the commercial rationale for engaging in climate-smart solutions, capacity constraints and regulatory barriers need to be revisited for an enabling environment. Incentives from the government to encourage local private sector investment together with building capacities of businesses on climate change and water efficiency can go a long way in leveraging private sector investments in climate-resilient WASH initiatives.

Solutions are available to address these challenges, companies need to disseminate and share their stories more and work together quickly with the development sector, government, and academia. Private sector can powerfully influence for WASH investment with business partners, collaborators, and governments, accelerating towards realizing the Sustainable Development Goal 6 and 13. ●

Shahrin currently works as a Senior Research Officer at the International Centre for Climate Change and Development (ICCCAD). Faysal Abbas works as Manager, Advocacy and Communications at WaterAid Bangladesh.



From 2010 to 2020 Unilever Bangladesh has reduced water consumption in its operations by 37%, specific energy consumption by 26% and CO2 consumption by 22%

Bangladesh Association of Software and Information Services (BASIS) and Bangladesh Computer Samity (BCS) – launched the “Water Innovation Challenge Competition-2021” to find an ICT based solution to save water resources. The result is expected to help the government make informed investment decisions for fresh water and recycled water infrastructure.

Unilever Bangladesh has always taken various initiative in its supply chain to ensure sustainable operations, the company says. From 2010 to 2020 Unilever Bangladesh has reduced water consumption in its operations by 37%, specific energy consumption by 26% and CO2 consumption by 22%.

In order to reduce stress on a scarce resource like water, Unilever Bangladesh is investing on water-smart products through innovation and modern technologies, making it easier for consumers to use less water at home. With an aim to



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Three Bangladeshi women advocating sustainable fashion

Their small ventures spread the message of sustainability

Afsara Mirza

It is evident that one of the main barriers to transition toward sustainability is consuming without lack of awareness. Nonetheless, post-pandemic fashion is heading towards a green journey as more people are starting to understand the impact of fashion on the environment.

Fast fashion undermines the ecosystem. The continuous and unprecedented amounts of producing and manufacturing of new clothing, and accessories use ample energy and create waste. However, social media outlets, such as Instagram and Facebook have been an instrumental medium to promote sustainable fashion brands. When fashion is kept in circularity, utilized for many years, it is known as eco-friendly and ethical fashion.



From left, Anusha Alamgir, Fathia Tamanna, and Sinyat Ahmed of Colors Dhaka, Dhaka Vintage, and Reach Community BD

The private businesses can play a vital role in protecting nature to tackle climate change and supporting sustainable consumption and production. Anusha Alamgir, Fathia Tamanna, and Sinyat Ahmed of Colors Dhaka, Dhaka Vintage and Reach Community BD provide interesting insights into sustainable fashion brands and social businesses in Bangladesh.

Initially, Anusha Alamgir started making video content demonstrating various ways to style vintage clothing. She wanted to challenge the existing understanding of what vintage was. The videos grabbed the attention of youth aged 13-25 who loved the idea of adopting vintage clothing.

The positive energy from her followers persuaded her to start Colors.Dhaka. The online vintage shop on Instagram displays clothing in three categories: 70s funky retro prints, 90s simpler girlier options, and TikTok influencers.

Anusha's raw materials come from her thrift shopping adventures abroad; flea markets' tours, sarees and un-

stitched materials from her mom's clothing shop, etc. It is noteworthy that her business model supports the circular economy which is meant to champion the 3Rs- 'reduce, reuse, recycle' for safeguarding the ecosystems.

Anusha uses eco-friendly packaging such as brown paper, instead of dye paper to reduce her carbon footprint. Additionally, she uses clear packaging tape which is cellulose-based. Proactively, before using this tape, she carried out an experiment by keeping it in the soil to see if it degrades. Even though the benefits of the green/circular economy are beneficial, lack of awareness and evidence-based actions hinders the uptake.

She said, "We don't have a lived experience of sustainability or recycling or thinking about climate change." Anusha Alamgir stressed that it is crucial to be cognizant about an individual's carbon footprint and conduct their own research on how the history of consumerism has evolved.

She also emphasized that "Humans existed when

plastic was not prevalent. For instance, before World War II everything was stored in glass materials. The milkman, beverage companies, and other businesses used glass containers for deliveries and storage. So, sustainability was always there. The problem is that we are always pursuing the maximization of profit.”

By watching documentaries based on conservation of biodiversity and ecosystems, such as Cowspiracy, Seaspiracy, etc, said Anusha Alamgir, we can unlearn unsustainable practices. “Sit back and look around your room and at all your belongings. Think how it was made, how long you owned it for and where it will end up. This will aid you to understand your ecological footprint.” Anusha also added that it is imperative to provide one-to-one education to young children to increase their curiosity of being the custodians of nature.

Another online vintage shopping page existing in Instagram is Dhaka Vintage. This vintage shop by Fathia Tamanna resonates with the 3Rs of circular economy (reduce, recycle, reuse). Fathia started this sustainable clothing line to embrace Bengali culture. She said:, “Bengali culture does not support the throwaway culture, we even reuse a torn cloth for cleaning purposes, and normally give old clothes to our house helps.”

She added that there is a big difference between the Western and Bengali culture, which already inherits the practice of reusing unwanted clothes. Fathia loves to curate each piece of her clothing line. Normally, she collects passed on pieces of clothes from her mother and aunts. From an early age Fathia was looking for opportunities to upcycle old material. And the upshot was that she received praises for her outlook from her friends and families.

It is necessary to have a role model who owns and embellishes himself/herself with vintage clothing. Fathia said, “When I started to curate my own outfit by upcycling materials, people were asking about which brand it is. And I realised, people who are attracted to vintage are very individual/distinct”. Even though the usage of second-hand products does not attract mainstream consumers, the demand for thrifting has been growing. More people are thinking it as a cool thing.

Generally, Dhaka Vintage’s raw materials comes from upcycling traditional sarees, unstitched kameez pieces, collection of leftover cloth pieces from tailors, etc. Time management and ample resources are required to curate each piece, which is a challenge.

“The main problem is that we are forgetting to embrace our own Bengali culture, which supports reusing clothing materials,” Fathia said. “If we want to promote sustainability, I believe, the government has to push for sustainable fashion. There should be policies and laws mandated to encourage this.” Fathia said that if the governments at local and national level provide incentives, such as tax breaks, capacity building workshops on circular economy models, the new normal will be greener and inclusive. This will also encourage clothing

lines to showcase their creativity and make sustainable clothing more affordable.

Sinyat Ahmed, founder of the social business Reach Community BD, supported sustainable lifestyle from a very young age. While hosting the first two Ecofest with her sister in Dhaka, she met with like-minded people who were selling eco-friendly products. This motivated her to start her own venture. Initially, her business plan was to make denim jackets from up-cycled clothing.

When Covid-19 ravaged Dhaka city last year, it encouraged her to change the business plan and start making reusable and upcycled face masks and selling them on Instagram. Reach Community BD is a collaborating platform which showcases hobbyists, artists, crafters, and individuals’ creativity in the form of artworks, and crafts (upcycled, reusable, eco-friendly masks and scrunchies; handmade potteries, canvas artworks, water colour paints).

Currently, the platform has 30 artists and 25 members who aim to tackle the twin crises of Covid-19 and climate change. Reach Community BD aims to create an inclusive and greener future for the marginalized communities. Hence, 30% of the proceeds from sales are donated to charitable organizations and NGOs who are working towards achieving Sustainable Development Goals 2030. So far, the social business has donated to more than 10 NGOs and charities in Bangladesh.

Sinyat Ahmed also envisions Reach to be an awareness raising and educational platform for climate change. Reach has shed light on the importance of recycling and upcycling in communities. “I collaborated with Canadian Maple International School to conduct community outreach projects and motivate the young students to create artworks related to nature conservation and climate change,” said Sinyat Ahmed.

Reach has also partnered with the Health Management BD foundation. The foundation operates schools and provides healthcare services to Rohingya children at the camps in Chittagong. Sinyat added, “We sold a few of the artworks by Rohingya children. In future, we plan to host art workshops with the Rohingya community to raise awareness on climate change.”

Sinyat Ahmed highlighted the main concern for climate change, which is “the unprecedented usage of plastic for quick packaging to make our lives easier.” She added, “At Reach we use sustainable packaging by recycling wedding cards which I have collected for years now. The only way out from the devastating impacts of climate change is to change ourselves and have an optimism for the changing habits to be custodians of nature. We have created a monster and we have to fight it together.” ●

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POULTRY INDUSTRY

Kazi Farms reduces emission by producing organic fertilizer, but it could do much more with higher composting capacity

If all the poultry manure and litter produced in Bangladesh were composted, it would have significantly reduced emission of greenhouse gases



Composter machine above the compost pit at Kazi Raigonj Compost Plant of Kazi Farms Limited

Courtesy

Saqib Sarker

One of the largest companies in the poultry and poultry feed industry in Bangladesh, Kazi Farms Group has been doing business since 1996. Its product range consists of day-old broiler and layer chicks, commercial eggs, poultry feed, fish feed, live broiler chickens, and organic fertilizer.

One of the ways the organization has been contributing towards reduction of carbon emission, says its director Kazi Zahin Hasan, is through a massive day-old chick production within the country.

When Kazi Farms started its chicken breeding business 20 years ago, almost all the day-old chicks which had been purchased by farmers in Bangladesh were produced from hatching eggs, imported from India and Thailand by air.

As Kazi Farms grew bigger, it began to supply a large amount of day-old chicks, fulfilling an increasing demand. Currently it produces over three million day-old chicks every week.

“The hatching eggs are produced by our own breeding farms in Bangladesh. If not for our breeding operations, Bangladesh would still be importing huge numbers of hatching eggs by air. Air transport of perishable cargo produces very large carbon emissions. So our industry, the poultry breeding industry, has already made a big contribution to carbon emission reduction,” said Kazi Zahin Hasan.

Internally, within the organization, it is striving to be more energy efficient to mitigate wastage.

“In every one of our industrial facilities we are trying to reduce wastage of energy by using more energy efficient lights,” Hasan said.

While energy efficiency needs to be a part of any clean production, the bigger challenge for the poultry industry is to reduce its greenhouse gas emission. Kazi Farms works towards this by producing organic fertilizer, said agricultural scientist Abu Taher, who is Senior Manager for organic fertilizer sales at Kazi Farms.

Kazi Farms produces organic fertilizer by aerobically composting poultry manure at its plants. The process involves agitating and aerating the manure so that it decomposes aerobically, and produces less greenhouse gases.

The traditional use of poultry manure is to store it in a heap for a few months, then to apply it to a crop field. The traditional method uses anaerobic decomposition of the manure, which produces more greenhouse gases.

“We are also setting up solar panels at many of our farms. This will hopefully reduce our energy consumption from the grid. Energy supplied to the grid in Bangladesh is mostly from fossil fuels, so reducing energy consumption means reducing carbon emissions,” said Taher.

Hasan says that Kazi Farms’ approach towards clean production and mitigation is in congruence with the standard practices internationally. But production of biogas from chicken manure is one measure that remains unattainable.

“Large biogas plants are very difficult to run on our farms. We did set up some large biogas plants, but found that we were unable to run them,” Hasan said.

“If you want to put 10 tonnes of manure into a biogas plant every day, you first have to mix it with 10 tonnes of water. If 20 tonnes of manure plus water goes into the plant, 20 tonnes of digested slurry will come out. That means you started with 10 tonnes of chicken manure, but you increased the volume of the waste to 20 tonnes.”

What this means in terms of logistics and setup, is that a manufacturer will need to have a huge pond which can accept 20 tonnes of slurry every day. It is also necessary to be able to separate the water from the solids to recycle the water. The solids need to be sun-dried, which can be sold as fertilizer.

“But all these activities require land, and almost no poultry farm in Bangladesh has enough land to do all this,” said Hasan.

“In Bangladesh the appropriate waste management system for poultry manure is to compost to convert it into organic fertilizer. Composting reduces the volume of the waste and converts it into sellable organic fertilizer.”

By doing so, Kazi Farms is making a big difference, says Hasan. “Lots of farmers are using our organic fertilizer. That means they are using less chemical fertilizer. Production of chemical fertilizer causes huge carbon emissions. So, replacing chemical fertilizers with organic fertilizers actually reduces carbon emissions.”

At the same time, organic fertilizers increase the water retention of the soil. Farmers who use organic fertilizers find that they require less irrigation, which is mostly done using

diesel powered pumps. So, reducing the need for irrigation also reduces carbon emissions from crop agriculture.

But Kazi Farms could do so much more with bigger composting capacity. Currently, it sells most of the manure and litter produced at its farms. Hasan hopes that Kazi Farms will eventually gain the capacity to compost all of the manure and litter produced by its farms into organic fertilizer.

“Most of the poultry manure and litter produced in Bangladesh is not composted. If it was composted and used as organic fertilizer, it would have significantly reduced the demand for chemical fertilizers. Producing chemical fertilizers is an energy intensive process which produces a lot of carbon emissions,” he said. ●

Saqib Sarker is journalist at Dhaka Tribune.



Sample collection for moisture analysis

Courtesy

Addressing climate risks in the agricultural sector: How can the insurance industry help?

Well-designed insurance solutions backed by strong data will not only minimize loss and damage from rapid-onset extreme events but also incentivize climate-vulnerable people to opt for resilience measures

Towrin Zaman Raya

The agriculture sector has an indisputable role to play in Bangladesh's economy. This sector employs around 50% of the population, with the livelihood of 70% of people overall depending on it. Unfortunately, this sector also suffers the most due to an unprecedented increase in the frequency of climate hazards in recent years.

The cyclone Amphan in 2020 affected crops from some 176,007 hectares of land across 17 coastal districts in Bangladesh. The year 2020 also saw the rise of a new problem of re-

current floods which caused production losses of around 149,416 tonnes of crops to 449,285 farmers. These losses are only expected to worsen with time because as climate change becomes more prominent, these hazards will only exacerbate.

For combatting the losses to the agriculture industry, several financial schemes have been introduced by the government. However, it is difficult for the government to solely give financial protection to such a large industry. The private sector also has an integral part to play, particularly in terms of financial instruments like climate risk insurance. While agriculture – prone to systematic and covariant risks – does not lend itself easily to insurance, index-based climate risk insurance has been established as an appropriate financial tool to support this sector.

How can the insurance industry help?

Economists have long emphasized how insurance can help influence the behaviour of market actors through price signals, which are implicit information conveyed through changes in market prices and signal buyers and sellers to change their behaviour accordingly. Insurers practice price discrimination by charging a higher premium for riskier activities. Likewise, climate risk insurance puts a price tag on climate risks, by charging higher prices for activities with higher climate risk.

This characteristic of insurance, however, is also the reason leading to it not being considered as the most efficient tool for addressing climate risks. Moreover, operational costs for climate risk insurance tend to be higher than traditional insurances. Above all, the most climate-vulnerable people tend to be at the worse end of the poverty spectrum, and are unlikely to opt for insurance solutions due to the costs associated.

Even with all the misgivings about climate risk insurance, its market has only experienced growth over the years, particularly in the form of index-based insurance which has become a common financial tool used primarily in agriculture. For index-based insurance, payouts are usually made when a certain threshold is triggered by a pre-determined weather or crop index, usually a certain degree of rainfall or flood level. The more polished the data, the more immaculate the index will be, resulting in a well-designed insurance product. Index-based insurance is a form of risk transfer approach that might not completely eliminate the risk of loss and damage,



The year 2020 also saw the rise of a new problem of recurrent floods which caused production losses of around 149,416 tonnes of crops to 449,285 farmers



but by providing compensation for it, can reduce the associated setbacks in development and livelihood.

The rise of index-based insurance in Bangladesh

Index-based insurance is slowly gaining momentum in Bangladesh. In 2020, 316 flood-struck Boro rice farmers from the region of Gaibandha received compensation as part of a satellite-based agricultural-based flood index (IBFI) program. This program was developed by International Water Management Institute (IWMI) in partnership with Oxfam Bangladesh, CGIAR Research Programs on Climate Change, Agriculture and Food Security (CCAFS) and Water, Land and Ecosystems (WLE), Green Delta Insurance Company Ltd (GDIC), Swiss Re and SKS Foundation.

World Food Program (WFP), with Oxfam Bangladesh and GDIC, piloted another index-based climate risk insurance scheme in 2020. Funded by the Korea International Cooperation Agency (KOICA), this insurance aimed at supporting 2,000 casual agricultural labourers for wages lost due to prolonged monsoon floods.

The ‘Promoting Risk Mitigation Measures for Climate Change Adaptation (Surokkha)’ project by Swiss Agency for Development and Cooperation (SDC) and Syngenta Foundation for Sustainable Agriculture Bangladesh (SFSA Bangladesh) has plans to providing index-based crop insurance to 233,000 smallholder farmers by 2022.

The Syngenta Foundation also recently signed a grant funding agreement with The Frankfurt School of Finance and Management (FS), implementing agency of the InsuResilience Solution Fund (ISF) which is funded by KfW. With BRAC and GDIC as local partners, this grant aims to co-finance the development and scale-up of climate risk insurance for a range of crops to meet the needs of the smallholder farmers.

While this increasing trend of climate risk insurance in Bangladesh is a positive sign for climate resilience, a fraction of people will never opt for it due to the cost of the insurance premium, regardless of how cheap it is. Also, insurance is

only applicable to risks, not certainties, so it cannot provide protection against all hazards, such as slow-onset events like sea-level rise and acidification. Moreover, there is an evidence gap on how much of a role insurance can play in actually building climate resilience.

Way forward

Despite its shortcomings, insurance is still acknowledged as a convenient tool to support the agriculture sector in dealing with climate hazards. Particularly, it is a financial tool that can help potentially fill the financial gap created in the agriculture sector due to the unprecedented increase in the frequency of rapid onset extreme events like floods and cyclones. However, that can only happen through designing competent insurance products backed by strong climate data which are also geographically refined and gender-responsive.

Well-designed insurance solutions backed by strong data will not only minimize loss and damage from rapid-onset extreme events but also incentivize climate-vulnerable people to opt for resilience measures. Nevertheless, the number of insurance companies engaging in index-based insurance in Bangladesh remains low, with only GDIC having made any significant penetration. A wider engagement of the insurance industry is needed for making index-based climate risk insurance effective.

Insurance is a costly solution and needs to be carefully designed for proper utilization. It should be preceded by proper risk assessment, and backed by robust data. Insurers also need to constantly innovate new insurance tools and adapt existing ones. Private insurance companies are much ahead in the game and can play a pivotal role in making climate risk insurance instrumental in climate change adaptation. A wider engagement of the insurance industry in climate risk insurance will lead to a larger fraction of the agriculture sector being penetrated by insurance and protected against climate hazards. ●

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Bayer's initiative to improve income of smallholder farmers through sustainable agricultural practices can be a model for Bangladesh

Bayer, together with International Finance Corporation and Netafim launched the Better Life Farming Alliance in 2018

**Fatema Akhter, Noor-E-Elahi
and Ali Mohammad Rezaie**

Climate change has been a contentious topic at the global stage since the beginning of the century. While there has been a divide in terms of countries and governments in their approach towards climate change, the magnitude of impacts of climate change continues to grow, affecting almost every sector in our daily life.

Significant national and international discussions are currently ongoing regarding the planning, financing, and implementation of adaptation approaches. With governments being locked in stalemates in trying to reach a conclusion to address the topic, the onus is gradually shifting toward the private sector to formulate initiatives that can reverse the impact of climate change.

Bangladesh being an agrarian society a huge chunk of the population lives in rural areas and is somewhat dependent on an agri-based economy. 60% of overall agricultural output comes from the crops sub-sector and the rise of population, so pressure on agricultural land and climate change are considered as key factors of the fall in agricultural growth.

Furthermore, climate change impacts on agricultural production are becoming salient due to the impacts of slow-onset events such as the sea-level rise and agricultural droughts. However, Bangladesh has made effective and sustainable gains in agriculture mainly through government policy support and the enterprising role and contribution of its farmers. Given the risks and vulnerabilities across all industry sectors and the significance of expected climate change impacts on businesses, the private sector will have a significant role to play in implementing adaptation to climate change. However, companies' vulnerabilities, adaptive capacities and incentives for action will be influenced by the markets and regulatory contexts they operate in.

In this article, we take a closer look at one such private-sector organization and its actions to tackle climate change in Bangladesh – Bayer, the German multinational is a mammoth in the health care and agriculture sector with a history spanning more than 150 years with the vision “Health for all, Hunger for none”.

Bayer CropScience is a global subsidiary of Bayer that is

committed to improving the food system not only for farmers, but also for the consumers and the environment. With expertise in science, the subsidiary is embarking on a responsible journey from the farm to the fork, to ensure inclusive development of the agricultural sector. The organization is present in Bangladesh since 2002 as a joint venture between the parent company and Bangladesh Chemical Industries Corporation.

The main focus of the Bangladesh operation has been on improving the productivity and livelihoods of smallholder farmers. The approach is to have farmers at the centre of our thinking since they will need to adapt the most. This area of action is important as it provides the potential for an additional stream of income for farmers based on how they produce food, rather than the volume produced.

Bayer, together with International Finance Corporation (IFC) and Netafim (manufacturer of irrigation equipment) has launched the Better Life Farming Alliance (BLFA) in 2018, which was introduced in Bangladesh from November 2020 to improve the income of smallholder farmers through sustainable agricultural practices. The BLFA plans to address the sustainable development goals (SDGs) of ending hunger, achieving food security and improved nutrition, and promoting sustainable agriculture by improving the efficiency of available resources such as water, fertilizer and energy.

Managing Director of Bayer CropScience in Bangladesh, Zahidul Islam informs, in Bangladesh, BLFA includes partners such as Bayer with its expertise in seeds, crop protection, and agronomy; IFC, the development finance institution for impact assessment and ACI as the local partner to create awareness about precision irrigation, balanced crop nutrition and soil health.

It aims to support smallholder farmers to increase crop yields and farm incomes through sustainable agriculture and agri-entrepreneurship. Referring to the 2016-17 Labour Force Survey by BBS the total of 22.7 million people involved in agriculture, that is around 50% of the agricultural labour force is rural women. An integral aspect of Better Life Farming (BLF) is its agri-entrepreneurship model, which operates via “Better Life Farming Centers”.

These centres are run by local rural agri-entrepreneurs that also include female farmers. Bayer is focusing on creating female agri-entrepreneurs to empower rural women.



Bayer is supporting women empowerment through creating female agri-entrepreneurs in rural Bangladesh Courtesy

They also facilitate economic opportunities for smallholders by enabling knowledge and technology transfer on good agricultural practices and deliver services such as market linkages, access to agri-inputs and crop advisory.

The centres help in addressing pressing problems in Bangladeshi agriculture such as erratic weather, disease and pest incidence, increasing salinity, ensuring food security and enabling better farmer incomes. Each BLF centre covers a group of 500 farmers from five to six nearby villages and serves as a mini-collection centre from where off-takers can collect agricultural produce.

Additionally, BLFA plans to support Bangladesh government to promote crop diversification and enhance crop yields by implementing sustainable climate-smart agriculture practices. For example, during the wet season, the BLFA is seeking to increase hybridization in rice farming and promoting improved varieties that combine high yield attributes with submergence tolerance capacity.

Also, it has launched Bacterial Leaf Blight (BLB) resistance variety and is a pioneer in biotic and abiotic stress tolerant traits in hybrid rice in Bangladesh. In 2020, Bayer Bangladesh distributed 300 metric tonnes of climate-smart hybrid rice seeds to 100,000 smallholder farmers during the dry and wet season. To enable capacity building for farmers from “seed to harvest”, Bayer Bangladesh collaborated with renowned NGO BRAC and conducted 250+ training programs in 125 rural locations covering 15,000 beneficiaries across the country. These training programs helped the smallholder farmers adapt climate-smart agriculture practices through sustainable rice farming.

Islam said partnerships and collaboration is an integral

part of Bayer’s approach towards strengthening the country’s agriculture sector. As an example, Bayer Bangladesh is planning to enter into new partnerships with key organisations under the Government of Bangladesh and Agriculture Universities for technical collaboration on promoting Good Agriculture Practices involving high-yielding hybrid seeds, safe and optimum use of pesticides and other agricultural inputs for agriculture commercialization to achieve sustainable farming.

Islam added that the company is making a difference and contributing to tackle climate change at the local level in both mitigation and adaptation perspectives and creating a better life for the smallholder farmers in Bangladesh. While the initiatives to enhance high yielding, disease and saline tolerant crop production and support smallholder farmers through training and advisory services contribute to adaptation, Bayer can enhance their efforts in several ways.

Firstly, they can consider piloting the drip irrigation system in the country which can simultaneously reduce greenhouse gas emission and address water security as rice crop production is water-intensive and contribute to methane gas emission. It will align well with mitigation strategies proposed by the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and the country’s updated (interim) Nationally Determined Contributions (NDC 2020) which aspires to reduce emissions from the Agriculture sector.

Secondly, the company can strengthen its engagement with academia and universities to advance existing research and knowledge generation through the collection and analysis of useable information and database on climate-sensitive crops and smallholder farming management that can consequently lead to the development and implementation of climate-resilient plans and policies.

Finally, lack of access to financial resources and appropriate technologies are the key barriers for smallholder farmers to adapt to climate change. Bayer, being one of the leading private sector organization, can work with government and development agencies to provide incentives for the smallholders to overcome the socio-economic drawbacks, adapt and become resilient to pave the way for agricultural prosperity in Bangladesh. ●

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Kazi & Kazi Tea mitigates climate change impacts by using innovative and nature-friendly farming methods

The company's approach to mitigation and adaptation appears more holistic than initiative-driven

Saqib Sarker

A company founded with environmental consciousness as one of its core principles, Kazi & Kazi Tea Estate Ltd (KKTE) is the first internationally certified organic tea estate in the country.

KKTE is doing all the essentials of environmental conservation by planting trees and organic farming. It is also using renewable energy.

The company says its organic production is releasing less carbon by using “nature friendly inputs”, and using renewable energy including solar and biogas plants.

While very cognizant of the realities of climate change and the need for mitigation, KKTE's approach is not that of reaction. In other words, it believes that organic farming should not be seen simply as a tool to counteract climate change.

“Climate change mitigation is not, and should not be, the primary objective of organic farming, but increased conversion to organic agriculture can contribute to the reduction of greenhouse gas emissions,” says the company CEO Syed Shoaib Ahmed.

It also brings important benefits, such as improved system resilience to the effects of climate change, maintaining or improving biodiversity on farmland, conserving soil fertility, reducing eutrophication and water pollution, and improving food security. KKTE “broke the barrier”, said Ahmed, by establishing a tea garden on fallow land using innovative organic and nature-friendly farming methods.

“KKTE is the only tea company in Bangladesh, which has secured international certificates following strictly the compliance issues, in accordance with EU Organic Standard,” said the KKTE CEO. Its farming and production complies with Regulation EU-880/2007 and 889/2008, NOP/USDA, Japanese Agricultural standard (JAS), Rainforest Alliance (RA), HACCP, Fair-trade and KOSHER.

KKTE uses only nature friendly measures for pest and weed control, and avoids synthetic chemicals. “Moreover, to make bio-pesticides to prevent the pest infestation, all the ingredients are internally resourced,” said Ahmed.

KKTE's is also a composite garden with herbal plantation. The company also produces dairy and other agricultural



A Kazi & Kazi tea garden in Tetulia

Courtesy

products such as rice, wheat, corn, oilseeds, fruits, pulses and vegetables. All grown organically.

The company's approach to mitigation and adaptation appears more holistic than initiative-driven. It has planted, the company says, millions of trees of indigenous varieties in barren lands in Tetulia, (where its gardens are located), converting them into “lush green field[s] which itself take[s] care of biodiversity.”

“A single tree can absorb one ton of carbon dioxide over its lifetime. This is one of the most efficient ways you can cut your carbon footprint,” Ahmed said.

The company also loans cows and calves to the local community, but allows for pay back of the loan in cow dung and milk. This mitigates KKTE's ever increasing need for cow dung as one of the major ingredients for making bio-fertilizer.

“Use of biofertilizer and Vermicompost improves the soil quality through increasing soil organic carbon, which not only enhances carbon sequestration but also improves water retention capacity,” said Ahmed. ●

Saqib Sarker is journalist at Dhaka Tribune.

Kazi Anis Ahmed, Director of Kazi & Kazi Tea Estate Ltd, is also the publisher of Dhaka Tribune newspaper, which publishes Climate Tribune.

পছন্দ ও প্রয়োজন অনুযায়ী বেছে নিন যেমনটা আপনার চাই

আধুনিক ইসলামী ব্যাংকিংয়ের ধারাবাহিকতায়
এক্সিম ব্যাংকের

আকর্ষণীয় আমানত হিসাবসমূহ

**মুদারাবা ক্যাশ
ওয়াকুফ আমানত**
'ইহলৌকিক শান্তি-পারলৌকিক মুক্তি'

মুদারাবা হজ্জ আমানত প্রকল্প
'আপনার হজ্জ হোক স্বাচ্ছন্দ্যময়'

এক্সিম রুহামা
'তিন বছরে দ্বিগুণ'*

এক্সিম যিয়াদাহ
'পাঁচ বছরে তিনগুণ'*
শর্ত প্রযোজ্য

এক্সিম শেফা
'প্রয়োজনের মুহুর্তে নিরাপত্তার আশ্বাস'
• মুদারাবা শেফা মাসিক
সঞ্চয়ী আমানত প্রকল্প

মুদারাবা মাসিক আয় আমানত প্রকল্প
'প্রতি মাসের মুনাফা যখন উপার্জনের সাথে'

মুদারাবা সুপার সেভিংস আমানত প্রকল্প
'দ্বিগুণ লাভে সমৃদ্ধ আগামীর পথে'

**মুদারাবা কোটিপতি
আমানত প্রকল্প**

'সঞ্চয়ে গাথা সুদিনের স্বপ্ন'

মুদারাবা এক্সিম স্টুডেন্ট সেভারস

'আজকের সঞ্চয়, আগামীর আত্মবিশ্বাস'
• মুদারাবা স্টুডেন্ট সঞ্চয়ী আমানত হিসাব
• মুদারাবা মাসিক স্টুডেন্ট সঞ্চয়ী প্রকল্প

**মুদারাবা দেনমোহর/
বিবাহ আমানত প্রকল্প**

'আর তোমরা স্ত্রীপণকে তাদের
দেনমোহর সন্তুষ্টচিত্তে দিয়ে দাও'
সূরা নিসা, আয়াত ২৫

আল ওয়াদিয়াহ চলতি আমানত
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How Grameen Shakti is providing a sustainable renewable energy solution in rural Bangladesh

Grameen Shakti's socially conscious model is not only beneficial to the millions of people of the rural communities of the developing world and the societies being served but is also profitable in the long run for the investors, and other stakeholders

Noor-E-Elahi

The Sustainable Development Goals and Paris Agreement reconfirm that growth and development cannot continue without all countries tackling climate change and boosting environmental sustainability. With the signing of the Paris Climate Agreement 2015, aiming to limit global warming to well below 2 degree Celsius relative to pre-industrial levels and to strive to keep it to 1.5 degree C, countries pledged to reduce carbon dioxide (CO₂) and other greenhouse gas emissions, as well as to adapt to the impacts of climate change.



So far, Grameen Shakti has installed around 1.8 million solar home systems (SHS) which are benefiting more than 9 million people with access to clean energy

For this, every country submitted its intended Nationally Determined Contribution (NDC) to UNFCCC in the year 2015 that includes Bangladesh as well. They also agreed that each country will update and submit their revised NDC every five year and Bangladesh submitted an updated NDC (Interim) on 31st December 2020 and it is expected that Bangladesh will be able to submit ambitious quantified emission reduction targets in our updated NDC by the year of 2021.

By scaling up renewable energy, we can sharply reduce one major source of the problem: energy-related CO₂ emissions. However, this will require a huge investment to transform the current development pathway into a low-carbon, and climate-resilient infrastructure. This will require significant investment and innovation and, more importantly, a shift in the way governments and the private sector make decisions. The climate-related risks and opportunities are fully understood and reflected in the decisions that public and private actors make. The private sector should engage in adapting to climate risks because financial impacts related to floods, droughts, cyclones, tidal surges, high temperatures, and other weather-related disasters have risen steadily due to climate change.

To combat the complex issue of climate change which has social and economic impacts on the vulnerable community, there is a need for innovative solutions in the areas of climate change mitigation and adaptation. It is an opportunity for companies to develop new products and services and serve new markets.

Successful private sector engagement in adaptation will catalyze greater investment in vulnerability reduction; this will accelerate the replication of climate-resilient technologies and services in core development sectors, especially in developing countries like Bangladesh where investment in long-lived infrastructure is growing rapidly. It is important to understand how the private sector is responding to the threats and opportunities arising from climate change. This understanding can help inform the development of policy frameworks that are conducive to adaptation, identify if there are currently barriers to action and share lessons learnt.



Solar Home System installed by Grameen Shakti has created access to energy for over 9 million people, replacing CO₂ by 400,000 tonnes per annum Courtesy

Here in this article, we tried to depict the activity of Grameen Shakti (Rural Energy) a Social Business founded by the Nobel Laureate, Dr Muhammad Yunus in 1996. This social initiative has the aim to improve “Access to Energy” by promoting the renewable energy technologies like Solar Home System (SHS) at an affordable price. It’s an innovative approach through acceptance of the financing mechanism by the low-income people and the infrastructure are the two major factors for the sustainability of rural energy access and caused a paradigm shift for thousands of rural poor with access to clean energy at affordable price.

As a pioneer of Renewable Energy in Bangladesh, in 1996 Grameen Shakti started offering SHS through both cash sale and credit sale approaches. Leveraging Grameen Bank’s successful experience in microcredit lending and managing an extensive countrywide network helped Grameen Shakti to become successful and to be the largest partner organization (PO) of the Infrastructure Development Company Limited (IDCOL) in the SHS program.

Furthermore, the micro-finance scheme helped to reach many low-income households that equate the instalment with the disposable income for energy of that time. This fi-

nancial factor influenced the uplift of sale of SHS where credit facility was offered within a 3 years repayment cycle, delivering renewable energy to the off-grid areas.

So far, Grameen Shakti has installed around 1.8 million solar home systems (SHS) which are benefiting more than 9 million people with access to clean energy and it enables sustainable light and power to thousands of rural poor, promotes good health, education, and productivity that creates a positive impact by improving the quality of life and socio economic conditions of the rural communities

To know more about how the company is taking up activities to tackle climate change at local level we interviewed Sohel Ahmed, the Managing Director of Grameen Shakti.

Ahmed mentioned the company is guided by social business principles, where it must have a positive impact on the society and environment through all its activities. Grameen Shakti through dissemination of sustainable renewable energy solutions contributes to empowering women, creating green jobs, reducing poverty, and building up healthy communities including environmental conservation.

Talking about solutions on how Grameen Shakti is making a difference, Ahmed shared how the company is continuously

SOLAR HOME SYSTEM

working on building resilience with local community-based tailored solutions that positively impact the community with lots of social co-benefits through access to clean energy links to improve the quality of life in the rural areas.

These are done through designing individual self-sustainable projects and enabling a sustainable model with local field experience including environment, climatic and social issues and turning the problems into solutions for the local community to achieve its social and environmental goals.

Ahmed added, one of the innovative concepts that they are working on is Eco-Village Development (EVD), which involves the implementation of inexpensive, renewable en-

uted 1 million Improved Cook Stoves (ICS) 30% share in Bangladesh. These activities cumulatively are reducing around 1.5 million metric tonnes of CO₂ per annum and saving fuel cost by \$270 million per annum.

Currently, more than 97% of people in the country have access to electricity. Sohel Ahmed said that with 90% under grid system, Bangladesh is the unique example of having largest off-grid SHS system in the world, around 6 million SHS all over the country. However, the lack of operational maintenance and misuse of the system may hinder the growth of the SHS.

Availability of conventional grid electricity may also create a situation of not utilizing the captured solar energy and hence, a case of wastage of the same. At the same time, it's opportunity to utilize the achievement of existing SHS and working together on how this could be more productive to maximize the best use of solar energy. This is a matter of integrating the off-grid SHS coverage with Rural Electrification Board (REB), the agency responsible for extending grid electricity in the rural areas.

He addressed the knowledge gained and lessons from these local projects must be shared within the country as well as around the world. GS has long involvement and collaboration with national and international partners and agencies for project design and implementation for achieving different social and environmental goals.

Grameen Shakti has the experience and expertise of working and implementing projects supported by UN, World Bank, JICA, GIZ, ADB, KFW, SNV, USAID and other similar organizations. In recent years, to leverage, optimize and institutionalize its knowledge, experience and expertise gained through the above activities and achievements, GS has established and put in operation a separate cell naming 'Consultancy & Knowledge Practice'.

Through this cell, Grameen Shakti is implementing projects like Eco Village Development, Peer-To-Peer Solar Trading, Energy Transition, WePOWER, Bangladesh Challenge, etc. These projects are contributing toward improving the socio-economic condition of the rural people while simultaneously maximizing the approach to climate resilience and creating various green opportunities.

Grameen Shakti's socially conscious model is not only beneficial to the millions of people of the rural communities of the developing world and the societies being served but is also profitable in the long run for the investors, and other stakeholders. The implementation of the Grameen Shakti replication can help achieve the goal of universal energy access by 2030. ●



Grameen Shakti won the prestigious ASHDEN Award and Energy Globe Award for its unique and impressive SHS movement which brought light energy and income to rural Bangladesh with green power at an affordable cost

ergy solutions, food security interventions, and livelihood enhancing solutions, mainly through demonstration of the solution, creating a sustainable model for the same where it is applicable.

Grameen Shakti won the prestigious ASHDEN Award and Energy Globe Award for its unique and impressive SHS movement which brought light energy and income to rural Bangladesh with green power at an affordable cost. In 2017, the partnership of Grameen Shakti and ME SOLshare, had won the 'Powering The Future We Want' initiative of the United Nations Department of Economic and Social Affairs (UN DESA) for implementing the project titled 'Smart Peer-to-Peer Solar Grids for Rural Electrification & Empowerment'.

So far Grameen Shakti has installed over 1.8 millions of Solar Home System (SHS), with 33% of its share in Bangladesh and 20% international. In addition, it has contributed to 35,000 biogas plants (40% share in Bangladesh) and distrib-

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