



CONCRETE PRISON

Page 7



পুরাই CRAZEE

f zanzeebd

এখন নতুন সব টীব-এ

শাহী
মিলেই

আর

Double
Fundae



CONFERENCE OVERVIEW	4
CONCRETE PRISON	7
MIGRANT DESTINATION	9
URBAN CHILDREN	12
INTERVIEW	14
RESEARCH	17
URBAN HOUSING	20
WASTE MANAGEMENT	22

Editor

Zafar Sobhan

Editor, Editorial & Op-Ed

Abak Hussain

Features Editor

Sabrina Fatma Ahmad

Deputy Magazine Editor

Saqib Sarker

Content Editor

Laura Anne Bahlman

Content partners

International Centre
for Climate Change and
Development (ICCCAD)

Graphics

Md Mahbub Alam

Alamgir Hossain

Color Specialist

Shekhar Mondal

Editor's note

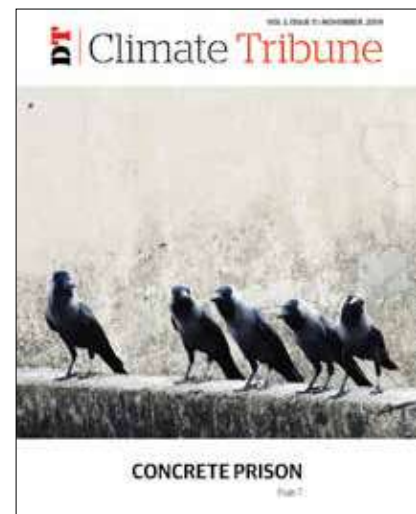
Dear Readers

The National Conference on Urban Resilience was held last month in Dhaka for the fourth year. It marks a deliberate step forward in the right directions.

Conferences like these are the breeding ground for ideas, as Dr Saleemul Huq pointed out during this year's event. Initiatives like the Urban Resilience conference are needed to pave the way toward a sustainable urban future.

This issue covers the conference in detail and related topics. Articles on building migrant friendly town, crisis of urban street children, electrical vehicle in Bangladesh and many more brings forth the most pressing issues we are facing today in the ever expanding urbanized world.

In addition to reporting the issues, we also talk about solutions. We hope the knowledge base we are building will play a role in how urban resilience is understood in



COVER: QURRATUL AYIN SADIA

Bangladesh by policy makers, but also by the general public. ■

CONFERENCE OVERVIEW

THE NATIONAL CONFERENCE ON URBAN RESILIENCE COMPLETES ITS FOURTH SUCCESSFUL YEAR

Sk Adhiraj Rahman Shair, Rukhsar Sultana and Nafis Fuad

In continuation to the Annual National Conference on Urban Resilience (NCUR), International Centre on Climate Change and Development (ICCCAD) at IUB and Asian Cities Climate Change Resilience Network (ACCCRN) jointly organized the Fourth Annual National Conference on Urban Resilience to Climate Change. The three day conference themed 'Building Climate Resilient, Migrant Friendly Cities and Towns in Bangladesh' had several national and international organizations hosted/co-hosted sessions at the conference. These hosts included BRAC-UDP, BARCIK, Christian Aid, CARE Bangladesh, Concern Worldwide, PROKAS, Practical Action, WaterAid and Municipal Association of Bangladesh (MAB) while Bangladesh Urban Forum (BUF) provided advice

capacity in transforming Bangladesh cities and towns into a climate-resilient and migrant-friendly.

There was a total of 15 sessions in the conference - an inaugural and concluding session which were hosted by individual organizations along with multiple partners and donor organizations. Each of the session hosts contributed to the costs of the event. Valuable insights from 6 chief guests, 13 special guests, 12 keynote speakers, ten session-chairs, eight session-moderators, 24 panellists/speakers/presenters and 29 discussants, helped attain the stated goal of the conference. Which was to discuss the latest developments in urban resilience policies and practices, challenges and opportunities; the way forward in building cities climate-resilient and migrant-friendly, how to accommodate the sustainable development goals (SDGs), its governance and collaboration and resource management.



RAJIB DHAR



MEHEDI HASAN



RAJIB DHAR

and organizational support for the conference. The three day conference took place from October 22 to 24 at the Institute of Architects (IAB) Agargaon.

Throughout the conference, over 700 participants comprising of academics, government and non-government personnel from a wide variety of sectors attended. The annual NCUR event is hosted to provide the participants with a platform for multi-stakeholder collaboration where research knowledge and ideas are exchanged, to enhance individuals

Day 1

At the inaugural session, Dr Saleemul Huq mentioned his desire to use this conference as an idea-generating hub in the years to come. Moreover, the session highlighted the importance of quality of life as fundamental to human prosperity, where people should have the right to migrate to places where both opportunity and preference align. The concept that quality education can act as a driver to ensure preference in migration and where our future generations can



MEHEDI HASAN

choose the cities to migrate was also discussed.

The session on 'Building a Resilient, Inclusive and Sustainable Urban Health System: Why the Leadership Role of Cities and Towns are the Key' by Concern Worldwide reinforced the importance of Sustainable health services as per SDG goal-3. For this, the medical sector should focus on equity to support the most vulnerable groups instead of only looking for profits.

BRAC-UDP having worked with 20 cities and eight municipalities encouraged a bottom up approach, on 'Public-Private-Community Partnership (PPCP) in Building Migrant-Friendly Resilient Cities and Towns in Bangladesh'. As chief guest of this session, Professor Ainun Nishat mentioned that 'Authority without responsibility is meaningless,' the point being that accountability is a necessity for holistic measures in order to bring about innovative and practical implications of research findings.

BARCIK and ICCCAD brought the lives of slum dwellers in the spotlight. Their session on 'Urban Hazard and Housing for the Poor', the daily risks and vulnerabilities associated with living in densely populated urban slums which suffer from waterlogging, poor drainage and sanitation facilities, lack of access to safe water, fire hazard among others.

'Youth and Climate Change: Innovative Ideas for a Clean Urban Environment'. session by ICCCAD was presented by students and youth leaders who shared their experience and innovative ideas in leading the climate future of Bangladesh, especially how they are dealing with the Dhaka's inadequate solid waste management

Day 2

In the session, 'Poverty-Mitigating Practices for Climate Migrants and Vulnerable Households at City Level', hosted

by GIZ, it was discussed how rural to urban migrants end up as slum dwellers that create extreme poverty in urban areas. Much discussion was held on the lack of social safety nets for the urban poor, which need proper attention to improve their livelihood.

WaterAid's session was focused on the 'Promotion of Urban Rainwater Harvesting and Recharge'. Rainwater harvesting is one of the most sustainable and old systems, although its practices are rarely seen in this country. Hence, there is a need to identify the roles of different stakeholders for promoting rainwater harvesting and recharge groundwater to help reduce the pressure on its extraction.

In the 'Story of Urban Street Children' session, several street children shared the risks and vulnerabilities in their daily lives and planned to build their resilience activities. Later on, several discussants shared their ideas on how to make a collaborative effort for ensuring better lives of street children through providing birth certificates, shelter, education, health-care and other necessary facilities.

Numerous mayors, councilors and secretaries from a wide variety of municipalities who took part in the discussions regarding the 'Role of the Municipalities in Bangladesh and Scope of Municipal Association of Bangladesh (MAB) in Achieving Sustainable Development Goals (SDGs)'.

The 'Out of the Box' session's discussion revolved around the presentations on 'How Alternative Play Space Help Children for Proper Development', 'Climate Migrant Elderly Women Needs', 'Perspective of Upholding Human Rights', 'Diffusion of Electric Vehicles in Bangladesh' and 'Perceived Cultural Ecosystem Services from Urban Green by Heterogeneous Sociodemographic Groups of Dhaka City, Bangladesh'.

CONFERENCE OVERVIEW



MEHEDI HASAN

Day 3

On the third day, PROKAS' session 'Climate-Resilient, Migrant-Friendly Town: A Case Study of Mongla Port Municipality' highlighted how most climate-induced migrants fail to consider their movement being caused by climate change. That regular 'hidden' migration is contributing to the continuous pressure on urban areas. There is a need to follow the current practices of the UNFCCC's basic framework for addressing migrants.

The session 'Urban Disaster Resilience in Urban Sector Policies' was jointly hosted by CARE Bangladesh and Christian Aid. Emphasis was given to the idea that rather than turning to the government for everything, what we can do is take initiatives by and rely on ourselves for solutions.

Practical Action focused on 'Integrated and Sustainable Waste Management for Socioeconomic Empowerment of Informal Workers.' It was highlighted that carbon emission had increased dramatically in Bangladesh due to poor management of solid waste and how efficient management can be a way forward towards achieving resilience.

Dr Saleemul Huq chaired the concluding plenary and summary session along with the award giving ceremony. Initially, the draft summary-findings of the three days was shared with the guests. The presence Habibun Nahar graced this session, the Deputy Minister of Ministry of Environment, Forestry and Climate Change (MoEF&CC), Professor Dr Shamsul Alam, Senior Secretary, Planning Commission (GED) and Dr Qazi Kholiquzzaman Ahmad, Chairman, PKSF. Both of them provided their valuable inputs on how to understand urban vulnerability; deconstruct Global Climate Change, its

scientific and legal dimensions, investigate the potential of community-driven city-wide development, enhance local governance, urban governance and resilience mechanisms, and building a network of stakeholders and partnerships at national and international levels.

The day concluded with the Urban Resilience Award 2019, distributed amongst five selected organizational representatives for their remarkable activities in implementation. These awards were given by the concluding session's chief guest and special guests.

Once again, another successful national annual conference ensued for the fourth consecutive year. This would not have been possible without the contribution of the chief guests, special guests, session host organizers, and the participants. With their valuable insights, the three day long event was another significant stepping stone towards expecting long term collaboration from all stakeholders in building climate friendly migrant-friendly cities and towns in Bangladesh. The following articles from this issue of Climate Tribune brings out some of the important issues brought to light during the conference. ■

Sk Adhiraj Rahman Shair is a Research Officer in the Urban Resilience Program at ICCAD

Rukhsar Sultana is a Research Officer in the Urban Resilience Program at ICCAD.

Nafis Fuad is a Research Officer in the Urban Resilience Program at ICCAD

URBAN DYNAMICS: ARE WE CONCERNED ABOUT THE LACK OF OPEN SPACE AND GREENERY IN DHAKA CITY?

Noor-E-Elahi

Urban dynamics, planned or unplanned, can cause changes to the structure, shape and functions of built and unbuilt areas (Madureira et al, 2011). With the intense use of available space in the urban preservation of open green spaces is of particular ecological importance (Roessner, 2001). Cultural ecosystem service (CES) is the nonmaterial benefits people obtain from ecosystems through spiritual enrichment, cognitive development, reflection reaction and aesthetic experiences (Millenium Ecosystem Assessment, 2005), adding to the importance of such open spaces in urban landscapes. Urban dwellers should be aware of the lack of free space and greenery affecting cultural activities and ecosystem services, to ensure a better understanding of the need for socially adjustable and sustainable urban planning.

Dhaka, the capital city of Bangladesh, is the hub of socio-economic and cultural activities of the country parallelly considered as one of the densest cities in the world, with 18 million people squishing in 1,528 square km. The average density of the central area of Dhaka city has reached a staggering 41,000 inhabitants per square kilometre. As per World Bank, 2016, more than 35 percent of Bangladeshi are living in urban settings. Notably, more than half of the world's population (55%) live in cities and this is expected to increase to 68 percent by 2050 (United Nations 2018). Based on current trends, Greater Dhaka would have a population of 25 million in 2035 and an income per capita of US\$8,000 at 2015 prices (World Bank). The

“The average density of the central area of Dhaka city has reached a staggering 41,000 inhabitants per square kilometre”



NASIF TAZWAR

rapidly growing economy of Bangladesh, raising the pressure to accommodate this increasing number and we are continuously approaching towards rapid urbanization.

Dhaka has a shortage of grounds for giving a home to its tenants. Thus, alongside the extension Dhaka city, the Government approaches to multi-storied buildings and housing arrangements inside the city. With the development of education and culture, changing leisure habits, city residents put forward new architectural and functional requirements to the living environment and urban infrastructure. But are we forgetting to consider that one of the essential components of the living environment of a city is the residential environment? Citizens mostly interact with the residential environment performs activities indoors rather than outdoors, due to lack of open space.

CONCRETE PRISON

“There is evidence that today, Dhaka is prone to flooding, congestion, and messiness, to the point that is clogging its growth to a livable city”

According to the Global Livability Index 2019, Dhaka is the third least livable city in the world. Many parts of East Dhaka are already being developed haphazardly at an alarmingly rapid pace. In Dhaka, the development of the living environment, mainly consisting of multi-storey buildings, high-rise buildings and modern public spaces cause variation in temperature and wind conditions of the terrain and worsen influence the environmental situation. There is evidence that today, Dhaka is prone to flooding, congestion, and messiness, to the point that is clogging its growth to a livable city. Private developers are buying land and filling it with sand so they can build and sell new houses and apartments. Canals and ponds are disappearing, and the few narrow roads crossing the area are being encroached by construction.

The value of trees and plants in the urban environment is well documented: they improve air quality, shade against heat and provide an antidote to congestion, traffic and the pace of city life. A park or an open space with greenery is like a lung in the busy mega-city full of traffic snarls, smoke and dust. The natural wind flow process in public residential areas of a modern city is affected by the high density of high-rise buildings, and the air has a higher concentration of pollutants

due to lack of air exchange. Pollutants modify gas exchange and cause oxygen starvation, getting into the lungs of urban residents together with the inhaled air, thereby causing asthma and other lung diseases. Thus, the issue of aeration of areas with high-rise buildings is becoming increasingly important. An ideal city needs 25 per cent greenery and open spaces, but there is only five percent open ground and greenery in the old part of Dhaka and 12 per cent in the new region.

Another threatening issue is usurpation and unplanned construction gradually taking up open spaces and greenery in Dhaka. The primary threat to existing public open spaces is encroachment by public and private entities. Many parks and open playgrounds have already been grabbed by governmental and non-governmental organizations for development projects like commercial apartments and some under the grip of private organizations, denying free public access. This issue is alarming because parks and green spaces are not just nice to look at; they influence health and well-being. Research proved that green space tempers climate extremes and mitigates the urban heat-island effect and access to it improve physical and mental health by providing more spaces to walk, relax, and play. Everyone in a city needs to have access to those benefits for a healthy life.

People come to green spaces to have a respite from the monotonous routine life. Still, the current trend representing 84 percent of the city people have no access to this facility within the boundary of their living area. What is very unfortunate is that the regulatory bodies are not aware of the need to protect these valuable parks and open grounds. The future generation of children in Dhaka city to grow up without playgrounds, depriving them of the health facility to grow up in a proper natural environment.

City authorities should lead the prime responsibility to keep a balance between urban development and sustainability for the present and future generations. The provision of adequate green spaces also is considered a key element which helps to provide mental and physical health among the people also ensuring urban sustainability.

Making available significant ‘green’ living space is now virtually mandatory for cities around the world. While sectors like infrastructure, industry and connectivity enjoy prioritized attention, we feel that housing as a foundational sector of development deserves a much more significant, thoughtful and creative focus. Planning for the needs of both society and the environment is becoming more and more prevalent as the impacts of urbanization, development and resource extraction influence the health of citizens and the vulnerability of cities. Thus we need to link ecosystem-based management with impacts of rapid urbanization and development using an ecosystem services-based approach to infrastructure and service provision. ■

Noor-E-Elahi is a Junior Researcher at ICCCAD



PHOTOS: SUMAIYA BINTE ANWAR

HOW TO BUILD A CLIMATE RESILIENT MIGRANT FRIENDLY TOWN

LEARNINGS FROM MONGLA STUDY

MIGRANT DESTINATION

Ashraful Haque, Sumaiya Binte Anwar and Rukhsar Sultana

Climate Induced Migration (CIM) Project by PROKAS is a piloting action research project, where ICCAD-CIM team has been working to identify the prospect of developing Mongla Town as a secondary city of preference for migrants rather than choosing mega cities ie Dhaka, Chittagong as their first destinations. The study identified the current problems and challenges faced by Mongla Port Municipality especially in their access to Education, Health and Housing. Understanding the research findings, stakeholders came up with their own solutions and action plans to build their city climate resilient and migrant friendly by installing quality education, health and housing as well as ensuring freshwater available for all the city dwellers.

People started coming to Mongla since 1952 after the establishment of the Chalna anchorage. The history of Mongla reveals that a lot of people came to Mongla from Noakhali and Chittagong, and most of them have come due to increased employment opportunities at the port, the study also identified the prospect of Climate Migrants coming to Mongla, and the current capacity of the town to provide migrants with facilities as well as the perspective of the town holding a larger influx of migrants in the future.

Education

The average literacy in Mongla is 57.20 percent with male 58.90 percent and female 55.30 percent (Upazila Profile Mongla). There are a total of 48 schools and colleges in the Town. Despite the presence of sufficient number of educational institutions, the respondents feel that there is an absence of quality education in Mongla town.

The locals feel that recruitment of poor-quality teachers, absence of trained subject-wise teachers and sufficient teaching materials in schools and colleges are disrupting the quality of education. Lack of access to affordable quality schools, vocational and academic training opportunities are a cause of disappointment among the youth community.. Around two-thirds of students commute daily from rural areas and adjacent Upazilas of Mongla. They often face difficulty to reach class on time during summer and monsoon due to lack of affordable transport facilities.

School dropout is a prevailing problem for both young boys and girls. During the months of June and July, when the availability of labour work decrease, seasonal labourers move out of Mongla along with their children to other towns decreasing the student count in classes compared to the beginning of the school year. Students who passed the SSC, around 30 percent of them move to either Dhaka or Khulna for better education services. Moreover social problems in the low income households result in drug addiction problem amongst youth aged 18-25. Many teenage boys and girls drop out of school to pursue work in fishing activities or EPZ.

MIGRANT DESTINATION

Locals feel that a few steps must be taken to ensure quality education. Initiatives should be taken to establish a public university, marine training center and a medical college, Technical educational institutions so that students will not require to go outside for higher education; Student-Teacher ratio and class sizes need to be as per the education policy at both primary and secondary level; psychological development of the students must be emphasised and necessary steps must be taken to create facilities of outdoor games and physical activities; Secured and affordable hostel facilities should be provided to attract young students from the village especially for girls who need to commute several kilometers every day. Housing should be provided for the teachers to incentivize them to stay in the town; Transport facilities, stipends and lunch should be provided for students; Proper and continuous training of teachers and school staff; Increase awareness among parents about the importance of education.

Health

Feedback from local respondent of Mongla urged that the current health facility of Mongla is insufficient. Lack of good private and public hospital remains a problem. Most of the hospitals and health centre in the Town lack diagnostic childcare and maternal care facilities. The hospitals are not properly equipped for pre/post natal care or C-sections. With limited health facilities, especially inadequate primary health care available, critical patients must be referred to Khulna for treatment.

Currently, Mongla Town has an Upazila Health Complex (UHC), St. Paul hospital two private clinics and some other health facilities managed by EPZ, Port Authority and Bangladesh Navy. Every Friday MBBS doctors of Khulna Hospitals comes to visit Sheba clinic or their private chambers in the Municipality to offer consultation to the locals. The Mongla River bisects the Municipality, and boats providing transport and connection for the two sides, making it difficult to go to the doctor during an emergency.

The local respondents strongly believe that due to their lack of access to potable water, their exposure to the number of waterborne diseases are high. Moreover, this challenge is exacerbated due to the absence of improved hospital, poor diagnostic facilities, inadequate doctors and medical staff. Locals strongly feel that the following services need to be ensured for quality health in the Town; Access to health Service; Increased awareness for better health and sanitation practice; Good number of specialized doctors and medical staff to ensure that hospitals can function to capacity; Better monitoring and accountability amongst health workers and medical staff; Investment in the infrastructural system to improve the capacity of the local UHC as well as bring new

“ People started coming to Mongla since 1952 after the establishment of the Chalna anchorage ”

and improved medical facilities for the town.

Housing

Accommodation for low income population is a great concern among the inhabitants. Many are living in the slum areas without proper water and sanitation facilities. Moreover these people are facing difficulty to get housing loan. Previously a housing plan for 485 houses failed, as the plan had neglected to incorporate bathrooms in the design. This led to houses being built without bathrooms. Such failures are more reasons for government, slum dwellers and private sectors learn and step up their planning designs for sustainable housing. To ensure proper housing UNO, Chairman of Upazila, Union Parishad, Local MP, Navy, Upazila Prokolpo Karmokorta and public representator, Engineer (govt., NGOs and Private), some private industries, Local Commissioners, Local Government, relevant ministries need to come forward.

Currently the drainage facility in the wards of Mongla Municipality is not proficient, Yet due to the interventions of the Mayor of Mongla (in upgrading some of the roads and drains in the slum areas of the municipality) in most of the ward water logging problem has been reduced.

A large number of students are suffering due to lack of dormitory facilities. To minimize this problem business, local



elites and philanthropists should invest in building accommodation facility for both teachers and students' group. Municipality and KDA can play key roles over there. With the potential of the city to grow, land use planning should be regulated and monitored very strictly to minimize environmental degradation. While approving a plan for building KDA and Municipality should work together to provide useful information of planning, design and durability of the buildings in the areas. Municipality along with Housing and Building Research Institute (HBRI) could train more people to be skilled technicians/bricklayers who will be aware of saline and cyclone resilient structures and how to repair accordingly.

Water

Drinking water becomes a number one concern in the Mongla Municipality area. There are two ponds from where the water is supplied to around 2500 Households. There are also 15 water outlets for the poor. There is a huge complain about the quality of water as it smells bad at household ends. Now people only use the supplied water for household purposes other than drinking. The private water jars are becoming very popular even though they cost around two taka per litre. There is no one living in the city who does not pay for water . Having proper treatment plants in place along with expansion of water supply to other households demands bringing all available ponds to be preserved by community-public-private

partnership manner. Therefore, private sectors can run cheap treatment plants to provide quality water. Solving water crisis could attract other business opportunities to grow in eastern side of Mongla river.

A city is a place where people can have a quality life along with available livelihood options. This quality of life can only be provided through installing quality education; quality health services; quality housing and quality water. Nevertheless, access to all of these services and goods must be ensured to all classes of people. Every city is unique with their problems' dimensions associated with its stakeholders. To understand stakeholder-problem dynamics well in solving existing problems is very unique from place to place. To understand this uniqueness and to capitalise that is also a part and parcel to design a migrant friendly climate resilient city. ■

Ashrafal Haque is Researcher at ICCCAD and his area of expertise is sustainability, resilience and risk reduction. He can be reached at ashrafal.haque@icccad.net

Sumaiya Binte Anwar is Research officer at ICCCAD. She is a civil engineer and a climate enthusiast. She can be reached at sumaiya.anwar@icccad.net

Rukhsar Sultana is Researcher at ICCCAD. She can be reached at sultanarukhsar@gmail.com

URBAN CHILDREN



MAHMUD HOSSAIN OPU

THE TALES OF URBAN STREET CHILDREN: IS THERE ANYTHING WE COULD DO?

Tasfia Tasnim and Farah Anzum

"Sometimes I felt so tired of each day, I wished it was over. But it just went on and on, like the silent prayers that forever go unanswered," said Runa while describing her childhood in the swampy thatched house of a slum in Dhaka city; at the session "Story of Urban Street Children in Dhaka City" in the Fourth Annual National Conference on Urban Resilience, held from October 22-24, 2019 at Institute of Architects Bangladesh (IAB), Dhaka.

There are thousands of stories similar to this. As people

living in the urban area are from different strata of the society, and they have different income levels, this shapes their way of lives differently. About 28 percent of the population in Bangladesh consists of children and more than 1.6 million of the city's children are living on the streets. They are often deprived of basic human rights, or their basic identity of having a birth certificate, securities and prone to other numerous vulnerabilities. They often ply their jobs at the city's traffic-choked intersections, selling flowers, hawking cigarettes or chips or begging for money. Regardless of all these, they grow up with their own resilience efforts and sketch their



“About 28 percent of the population in Bangladesh consists of children and more than 1.6 million of the city's children are living on the streets”

dreams. The session at the urban conference was thus designed to listen to those stories of struggle and identify strategies to support this children group in achieving those wishes.

Runa Laila, an urban street child grew-up in the hustle-bustle and marshy slums of Rayerbazar - shared her stories of struggles and never-ending persuasion for education. She is currently enrolled in the eleventh grade at college. However, Runa migrated with her family from Netrokona to Dhaka city in their dire need of earning. “We moved to this “Jadur-Sohor” (City of Magic) with our numerous hopes, strangled with nothing and leaving everything behind”. The sudden change of life from a green village to a mundane slum has stricken her immensely. As an adult girl, she became victim of various social constraints, like: eve teasing. She urged, It is saddening that people living in the surrounding keep quiet regarding the social problems. It encouraged her to be a journalist in future and stand against these social dilemmas. She believes that, Being born as a poor is the fate but dying as a poor is not ac-

ceptable. From that spirit, she has continued her studies from APON foundation which works with the underprivileged children with a view to alleviating poverty and eliminating all forms of social discrimination. She is extremely thankful for not getting married at the early age like other village girls, and expressed her eagerness for continuing her education saying that “Even studying at the floor mat, I enjoyed my education as my school teachers were very helpful and kind.”

These street children had more or less similar stories of their struggles and emotions. Some of them grew up without their parents, some of them choose their path without any guidance, some of them are doing their daily struggle with jobs, and many of them are having countless nights sleeping on the roadside. In this quest, they sometimes miss a few meals and living with an empty stomach. However, all these children like every other citizen of the country is having or consuming anything paying property tax to government but these unprivileged group is not receiving any benefit, whereas they need to be provided with basic and better education so that they can take the lead to create a better world. But because of the loopholes exist in this society, children are still staying at streets, or doing odd jobs, where they should be having an enjoyable life and gaining education.

Interventions need to ensure the long-term sustainability of projects over some finite period. It is important to conduct research on exploring the vulnerabilities of these children in relation to climate change and other social issues. One of the major solutions would be investing in children; especially for educating young girls and provide them market demanding skills training to help them to be an entrepreneur. Being a climate vulnerable nation, Bangladesh will face the climate change impacts within next 30-60 years. Therefore, to be prepared beforehand, these children need to gain proper knowledge and training today to be able to claim as climate champions in future. As we are graduating towards the middle-income country status from being the least developed country, no particular group should be left behind in the development process. Hence, national policies need to be strengthened to reduce the risks of child labor and ensure safe working environment for all. A proper institution and provision of complaints mechanism should also be developed to help these children. Planning for a jamboree with the street children on climate change topic could be a first step to raise awareness on the needs of individuals to be resilient tomorrow.

Tasfia Tasnim works at ICCCAD. By degree, she is a planner. Her working majors are climate finance, livelihood resilience and natural resource management connected to socio-cultural dynamics.

Farah Anzum is currently working as a Junior Research Associate at ICCCAD. Her work involvement mainly includes climate change and gender and climate finance.

INTERVIEW



Dr Shawkat Alam

COURTESY

Adnan Qader and Rukhsar Sultana

Dr Shawkat Alam attended this year's National Conference on Urban Resilience. There, his keynote speech on "International Law And Policy Informing Bangladesh Climate-Induced Migration Policy" focused on the policy frameworks and plans needed to ensure that climate resilient, migrant friendly cities can be developed in Bangladesh. To gain further insight into his extensive work and the possible way forward for Bangladesh to handle climate-induced migration, the following interview was conducted.

Tell us a little bit about your work in in Bangladesh.

My research interests are primarily focused on the problems faced by developing economies. When I examine developing economies, I look at them through social, cultural and interdisciplinary lenses. Each of which has its own merits and problems.

The field itself is very demanding because the problems in this area are very complex, and attempted solutions to problems often miss out on the intricate links. For example, the relationship between developing economies and climate change is very complex. Both aspects can either complement each other, for example through better job opportunities, or they can create problems such as overpopulation. In cities like Dhaka, where the economy is thriving and also experiences climate migrants, a partnership between the SDG goals, especially

goal 16 (Peace and Security) and goal 17 (Partnership) is particularly difficult to achieve. Such a partnership can only be achieved successfully if there is a strong relationship between the government and civil societies.

We often ponder the negatives when talking about vulnerability, but in contrast, we need to learn to look into the positives as well. A positive for Bangladesh has been that amidst this vulnerability, the people here are resilient. There are 40 million people who are smiling. Even though Dhaka is highly populated, people here are accommodating each other. What Bangladesh has to offer in terms of its resilience to climate change is something that other countries can learn from. Our country has the potential to pioneer the climate change adaptation field.

'SDGS MUST UNDERGO THEIR OWN SETS OF TRIALS AND ERRORS'

AN INTERVIEW WITH DR SHAWKAT ALAM

Dr Shawkat Alam is a Professor of Law and the Director of the Centre for Environmental Law at Macquarie Law School, Macquarie University, Australia. He holds an LLB with Honors from Rajshahi University, an LLM from Dhaka University and a PhD. from Macquarie University. His research focuses on the opportunities and challenges faced by developing economies to achieve sustainable development, by examining international legal, institutional and policy frameworks



BIGSTOCK

Can you define migrants and how they are connected to climate change?

Defining migrants and how they are connected to climate change is really important, but being stern on a definition is not assistive for our purposes. Climate change can be many things. It can be sudden or slow onset. Climate change affects each area and person differently. Push and pull factors can also affect different groups disparately, and people are often displaced due to climate change. From my experience, migration can be linked to slow and/or sudden onset climate change impacts. The term climate-induced migration has some limitations due to the negative connotation that these migrants being a liability. I prefer to use the terms ‘Climate Migrants’ or ‘Climate Displaced Population’ interchangeably as they are less restrictive and provide me with greater leverage to encourage policy change. This is what I call the piggyback approach to pursuing policies that meet the issues at hand.

Can you elaborate?

Migration should be considered ad-hoc and our contribution as researchers should not be focused on how we are identifying migrants as liabilities, but rather encouraging time and energy to be spent on taking action to mitigate risk and harm. Some people have positive reasons for migrating such as to seek better job opportunities. People losing their

jobs or homes in their place of origin may decide to migrate. This is the same case for refugees or people coming to Dhaka to seek better livelihoods.

Who decides for migrants, where they will migrate?

In my experience, people migrating inside the city decide to move to a particular location through their existing connections or network such as their predecessors or relatives who have moved before them. The middle man and then some local leaders generally maintain a connection with people back home. These people provide the necessary connections or a platform for prospective migrants to decide on a location to migrate.

My research has looked into these “push and pull factors” affecting decision-making, as well as asking the difficult questions. For example, what is the role of city planners? What are the planning instruments? How much space is allocated to these migrants, as they are moving into the city? These are questions that the city council should be looking into.

A slum starting and expanding in the city is not factored into city planning. Someone has to own it, especially from a humanitarian perspective. The human rights mechanism specifically mentions that it is the role of the government to ensure the people have access to basic amenities. Migration is an adaptation strategy but it needs a very coherent framework of governance, especially from municipal leaders.

What do you see as major obstacles for migrants in the long term?

The governance here is very traditional. There is a lack of collaboration between different ministries and between municipal bodies. The lack of internal or horizontal coordination and management is creating this obstacle. Everybody's business is nobody's business.

I think the mixture of so many different sectors and fields, their consecutive policies and the proper implementation are all important. The synergy of all these factors should come into play in the development sector to cater to migrants. Achieving SDG goals can also help to close the gaps.

“A positive for Bangladesh has been that amidst this vulnerability, the people here are resilient”

You are working closely with the SDGs, especially SDG 16 and 17. Do you see SDGs being achieved or used effectively?

As you know, SDGs evolved from the Millennium Development Goals ('MDGs'). In the beginning, people were very skeptical about achieving the MDG goals, but in contrast, SDGs have enough flexibility to make practitioners and implementers use these goals effectively. But, as every new thing, the SDGs must undergo their own sets of trials and errors. Md Abul Kalam Azad, Principal Coordinator (SDGs), mentioned a couple of times that we have many constraints such as a lack of goal, limited availability of data, and the lack of capacity to convert those goals into actions; and he was not wrong in saying that. We have problems such as the availability of finance, skills, and human resources, as well as technological limitation. The SDGs and sustainable development require a whole of government approach and consecutive manpower to reach the targets. But we always need to be positive. I think the work so far has been optimistic and as I mentioned earlier, we are utilizing enough resources to begin to bridge those gaps.

Can you elaborate on how things could be done better?

As I see it, the current development strategies should require us to incorporate nature-based value systems, or to development proper partnerships. The value of nature is really important and often overlooked. For example, when we talk about education it is not always a straight system where you teach and students learn. The education system incorporates social, cultural, economic factors that give an overall flavor of various affairs. Similarly, our current development strategies should be in harmony with nature because at the end of the day, we are relying on it for resources and when it is negatively affected it always hampers us in some way or other.

Another thing that should be stressed is the importance of ownership. If people who are working in this particular field take ownership for their actions, things could be much smoother.

Do you see the current affairs regarding migration and adaptation solution or a problem? Do you see adaptation measures that can help migrants?

I don't see adaptation measures failing, I look at it the other way round; I see them as a vehicle. Migration is, and should be, viewed as a form of adaptation. It adds to the economy and the growth of the host city. However, there are always avenues for improvement.

In places where dialogues don't exist, there are always avenues for collaboration. This could be achieved through international law and policy. These changes should be seen as optimistic avenues for change. For example, the conversation we are having today about migration would not have taken place a few years ago. But the step we took to address the issue started off a chain of events, and now we have the platform to address and solve these issues.

We should also look into the political aspects of the issue as well. I think bridging the gaps between international and domestic politics along with SDG synergies will also strengthen migration as an effective adaptation tool.

What is your advice for the new generation of researchers?

To the new generation of researchers - I urge you to challenge your boundaries. Don't get dragged into a stereotype, you are the navigator of your own research.

Something I always tell my students is, "the biggest contribution you can make to the field of research is your truth - researchers must use their findings without filters. The contextualization of research is what provides the most valuable insights".

Adnan Qader is a Research Officer and Program Lead Gobeshona at ICCCAD

Rukhsar Sultana is a Research Assistant in the Urban Resilience Program at ICCCAD



SYED ZAKIR HOSSAIN

UNDERSTANDING BATTERY ELECTRICAL VEHICLE DIFFUSION IN BANGLADESH

Sherpard Zvigadza

With more than five million Battery Electrical Vehicles (EVs) now on the roads worldwide, two million have been sold in 2018 alone. Compared to just a few thousand in 2010, technology advancement has proved that economic growth can be enhanced, making its progress unavoidable. What's more, this unstoppable advancement is helping fix transport problems, bringing new possibilities and choices.

By definition, EVs refer to an electrically-driven vehicle which uses one or more electric motors for its propulsion. Since the country's independence, the Bangladesh Government has given paramount importance to road transportation and therefore has become more popular over the years. In addition, there has been a remarkable increase in the access to electricity in the country, from 48% to 72%, producing per capita power generation from 220-Kwhr to 371kwh (7Fife Year Plan, 2015). Such a scenario reflects an

increase in its production and distribution. The Bangladesh Government has allowed the free contribution of multiple non-state actors to contribute to the development of the country.

Research has also shown that most governments worldwide have always supported diffusion of technologies, for example, agricultural technologies and manufacturing. For example, the United States of America's production has created manufacturing small and medium scale enterprises with financiers of production centers supporting diffusion. Other ways of supporting diffusion include linking suppliers and users, promoting BEVs by introducing low car application fees and quick approval processes, notes Organization for Economic Co-operation and Development (OECD). However, specifically on BEVs, despite its roles in enhancing urban economic growth and creation of opportunities, congestion, safety and environmental aspects are now of concern for urban transport.

Bangladesh is one of the most densely populated countries in South Asia. With a population of about 164 million people, the country is regarded as the most vulnerable country in the world and occupies 147, 570 square kilometres. The further growth of the population including floating population as well as urban sprawl has resulted in the increase of commercial activities including secondary and tertiary industries. This has resulted in the acceleration of the rate of demand for transport. However, the increasing growth rates of buses on the streets have remained stagnant. As such para-transport penetrated fast in the public transport system. The transport system of Bangladesh consists of roads, railways, inland water, three seaports, maritime shipping and civil aviation.

Research has proven that the transport sector produces the

Why and how BEVs diffused in Bangladesh

Underlying this critical question is the need to understand why technology diffuses in the first place. This article will try to give some background, of why that happens and in the next part explain how it happens. Interestingly, diverse forms of technology have been growing and diffusing and there are reasons why they do so.

Diffusion is defined by scholars, as the process by which a new idea is taken up and becomes acceptable by a group of people or community. Along this school of thought, attitude, too, is as a result of whether the technology is difficult to operate or linked with existing technology. To many people, technology diffuses if it has the potential to contribute to economic growth. Therefore, if people have the right attitude,



largest source of carbon dioxide emissions, and contributes to 27% of energy consumption, compared to 40% from power generation, industry 16%, buildings 12% and agriculture and non-energy use, eight percent. Globally, road transport is currently dominated and overwhelmed by Internal Combustion Engine (ICE). However, due to pollutants and traffic jams, the promotion of sustainable fuels has become equally important.

The BEV as a transport energy technology solution is proving practically to be a better alternative technological response in dealing with Green-House Gas (GHG) emission reduction. BEVs are in many ways, addressing localized pollution and national energy security and energy efficiency. In addition, BEVs have a zero tail-pipe emissions and thus emit less carbon dioxide compared to those powered by ICEs. This happens especially if the source of power is from renewable energy sources. BEVs, are slowly taking the world by storm, have an advantage in terms of energy efficiency, energy security, reduced user-cost per kilometre, noise and local air pollution.

a technology can diffuse.

Technology diffusion has two characteristics, namely, slowness and rate of acceptance. Some technologies diffuse fast and rapid, while some may be slow and take a considerable amount of time.

For example, colour television in India took a long time to get diffused. However, for the satellite TV, the rate of diffusion was very fast, so too was the mobile phone. Further, the cordless telephone took a long time to get diffused into Indian homes, yet the cell phone got readily accepted by all and diffusion was thus, fast.

Scholars, also note that for technology to diffuse it must meet five characteristics, namely, relative advantage, compatibility, simplicity and ease of use, trial ability and observability.

The Bangladesh case

All these technological characteristics have fitted in well in Bangladesh due to the limited size of the country where its transport system has a prodigious reliance on road

transportation than inland water and rail.

Now, in Bangladesh, the BEV is commonly known as Easy Bike. It has five batteries and carries six to eight passengers. It is powered by rechargeable lead-acid batteries as a source of power. Currently the main source for charging the BEV is Electricity from main grid.

I have just concluded a unique research on BEVs in Bangladesh whose main objective was to understand how and why the Battery electricity Vehicle came into Bangladesh, its Environmental Implications and the role of Renewable energy and related policies in a changing climate.

The study found out that the first BEV came from China between 2001/2002, introduced by a man named Firoj who imported one BEV and tried to re-sell it. The port of entry is Chittagong. On a related but on a different dimension, the Chinese also brought their electrical vehicles straight into the rural areas of Bangladesh to find buyers and dealers. After a while, they followed up to check, through customer feedback if it was working well in the local conditions. They went back and redesigned and adjusted according to the needs of rural people.

Amid 2005 to 2006, with more imports trickling in, it gained popularity in the rural areas without the aid of radio, newspaper or television adverts. The main reasons was due to its shared riding facility resulting in low fare charges (Tk5) for short distances of zero to five kilometres, as well as hop-in and hop-out facility. Given this country-wide penetration, the BEVs are playing an indispensable role in Bangladesh. It is also functioning as a last mile transport system, between the main road and their door steps.

Besides their ability to move in all type of roads, they are noise-less and smoke-less too. They have gained popularity in among Bangladesh's rural and urban communities. In urban areas, they are used as common transport mode of transportation to middle and lower income groups of Bangladesh, especially in the link roads and district dusty roads.

In 2011, the BEV was banned from the main highways of Bangladesh's main highways, due to their causing of serious accidents over a very short period of time. It also faces and attracts a steep tax barrier (89.7%), if imported as a Completely Built Unit (CBU) or fully-built vehicle. This technology is the only technology that has attracted a six tier tax charge. The brand and origin of the BEV in Bangladesh is not considered in the blanket ban and financial barrier imposed by government.

However, if imported as Completely Knocked Down Unit, (CKDU) the tax charged is 37%. This in itself is a direct benefit deliberately put by government for importers to enjoy. It seems this facility by the National Revenue Authority has promoted the technology's proliferation than its stoppage through ban and tariff barrier. The numbers of BEVs have risen dramatically, from an estimated number of 397 000 in 2013 to about 1500 000 in 2019.

Environmental and other policy concerns for the BEV in Bangladesh

EV batteries in the vehicle diffusion have gained attention in my study. Now, given the fact that each EV carries five batteries, this means, to date there are 7.5 million batteries out there that will have to be disposed or managed. So far it is plausible that there are a few Group of companies like Raimafrooz, Confidence Batteries, PANNA and HAMKO that are manufacturing Batteries, with Raimafrooz and Confidence Batteries are making BEV batteries and having manufacturing recycling plants. At least, Raimafrooz recycle up to 98% of its

“ The BEV as a transport energy technology solution is proving practically to be a better alternative technological response in dealing with GHG emission reduction ”

battery waste, which serves as a good example. Apparently there is no government Policy or regulations for recycling of batteries. This calls for the availability of proper and fully-fledged Battery Waste recycling plants in Bangladesh for the EV Industry coupled with relevant policies and regulations. This is however, dependent on the regularization of BEV registration and availability of BEV Policy and Battery charging guidelines.

The spread or diffusion of BEVs in Bangladesh, apart from providing carbon mitigation benefits, has already created employment opportunities for the rural and urban middle to low income people. It has created an informal sector and facilitated entrepreneurship in the areas of Mechanics, Driving, Battery recycling, Battery Charging, Auto mechanics, Panel Beating and Spraying, Tyre technicians and finally some form of revenue collection for certain organized municipalities such as Singra and Khulna who have been locally registering them. As a result, it has assisted in alleviating poverty.

Researchers acknowledge the local commuters, local manufacturers, importers, middle to low-income people have all assisted in the creation of demand for BEVs, in the absence of policies in Bangladesh. ■

URBAN HOUSING FOR THE POOR: IS VERTICAL HOUSING APPROPRIATE?

LEARNINGS FROM THE FOURTH ANNUAL NATIONAL CONFERENCE ON URBAN RESILIENCE TO CLIMATE CHANGE 2019



SYED ZAKIR HOSSAIN

Sakib Rahman Siddique Shuvo and Adiba Bintey Kamal

“I lost the area where I lived my whole childhood, grew there, played around it, quarrelled with others... Years after I was forced to leave, when I came back today, this place has a new name, new high rise buildings, wide roads. I wonder if this is that Beltoli, where I lived, and now there is a multi-storied building where I slept!”

The harshness of these lines from a slum dweller Kulsum Begum made the whole hall room silent at the plenary session on 1st day of Fourth National Conference on Urban Resilience and Climate Change. The session was about “Urban Hazard and Housing for the Poor.”

The discussion of the session started by exploring the risks and vulnerabilities of the urban poor, who face housing

problems and lack the basic needs of a citizen. There was some discussion about recommendations for the urban poor. One of these recommendations included the idea of vertical housing for them and was a primary solution from the findings and studies on urban slums, which was followed by some more crucial suggestions i.e. avoiding plastic as a building material, implementing housing strategy and allocating special budgets to reduce the risk and vulnerabilities in the urban poor areas. Further discussion focused on the above mentioned topic and other various logical explanation provided by the guests, panelists, speakers well as the participants.

Slum ecology

To implement something for the development of urban poor people, we must understand the ecology of these people and

the environments in which they live. Who are the people living there? where do they come from? and what influences them to move to Dhaka slums?

These people came to the city, mostly through internal migration, which results in triggering the unequal development of our country, which is now being amplified by various climatic events. Though migration itself a multi-faceted problem, we are unable to attribute any binary reasoning about the root cause of the problem, as it is both economical or environmental. People are coming to cities to change their lives and livelihoods, a study shows that cities have engrossed nearly two-thirds of the global population explosion since 1950 across the world.

Slums have a severe effect on the environment worldwide because they are generally built in places that are vulnerable to various environmental and health hazards. In Buenos Aires, there are slums over a former lake, a toxic dump, and a cemetery, which was abundant or common property and slum dwellers chose to live there because it is cheap and it is needless to say they cannot afford a house in housing societies. So as from the discussion, is it possible to make separate housing communities for the urban poor?

Housing for the urban poor

Initiatives have been taken to relocate the urban poor people in affordable and sustainable housing around the world. In India, Mumbai has one of the largest slum areas in the world. In the 1970s the Indian government created a modern twin city on the mainland opposite the Bombay peninsula, New Bombay, where the urban poor were promised new homes and jobs. Sadly the new housing went to civil servants and the middle-class instead of the local people on the mainland who as a result were displaced, losing their land and livelihoods. Whereas in Delhi, in a similar project the Development Agency distributed one half million plots. Research shows that only 110000 houses have been built for the poor, whereas Delhi is evicting 450000 illegal slum-dwellers then.

Another example seen in Nigeria was an initiative to rehouse its urban poor in the seventies. However, their third and fourth National Development Plan became charades of this ambitious initiative - less than a fifth of the homes were constructed as planned. In contrast, most of the housing went to other people than those intended, who were politically powerful individuals with incomes high above the eligibility threshold.

So what should we do?

Let us go back to the story of Kulsum Begum, the story we started with - where she lived back in early 2000, but now there is a high rise building, which is mostly government offices. It is debatable to take choose one decision between them - as it is legal to evacuate the previous occupiers from this place. While there may have been the need for those

offices, from a human perspective, we cannot just make these vulnerable people homeless!

To accommodate this vast amount of people into a better environmental scenario, resettlement in a vertical building is a potential alternative. Nevertheless, from the examples of India and Nigeria, we have learned that there are some complexities in terms of the distribution of those houses. Notably, middle-class poaching and political bias are two significant causes making the situation more complex.

People migrate to get better opportunities. When people from suburban areas have the chance to live in the city, but not in a slum, in better Living conditions, they will grab it. In order to deal with this, proper guidelines are needed to distribute the homes using appropriate makers to identify the urban poor people being targeted by this policy.

“Slums have a severe effect on the environment worldwide because they are generally built in places that are vulnerable to various environmental and health hazards”

The bitter future

We are making Dhaka uninhabitable day by day. Slums of Dhaka city are becoming more vulnerable and deadly nowadays, the fire in several slums in Dhaka proves that. People living in slums are exposed to the worst environmental, health and climate related impacts. Rising temperatures rising have a severe impact on slum-dwellers. Dengue and other vector-borne diseases will become more deadly day by day if we do not take initiatives to mitigate these risks as soon as possible. So it is high time to think, as well as implement some great ideas in the wellbeing of urban poor. ■

Sakib Rahman Siddique Shuvo is currently studying at the Department of Geography and Environment, Jahangirnagar University.

Adiba Binte Kamal is working as a Research Intern at the International Center for climate change and Development.

TRASH TALK

HOW SUSTAINABLE WASTE MANAGEMENT CAN IMPROVE THE LIVES OF INFORMAL WORKERS



RAJIB DHAR

Md Hafizur Rahman

Rapid urbanization has made solid waste management a serious problem today. In Bangladesh, solid waste causes incredible environmental hazards and social problems in the lives of people living in the cities. On October 22 to 24, the Fourth Annual National Conference on Urban Resilience to Climate Change was held at the Institute of Architects Bangladesh (IAB), Dhaka, where this issue was discussed.

During the conference, one of the parallel sessions was on Waste Management for Socioeconomic Empowerment of Informal Workers. This session's objective was to learn about the good practices from informal waste workers and their business cooperatives. These groups lead the practice of waste collection and recycling, supporting municipalities environmental waste management and contributing to making cities more resilient. Furthermore, the session explored the ideas and recommendations from relevant stakeholders on how informal waste-worker led business models can be scaled up for operationalization of the 3R

(reduce, reuse and recycle) strategy and how Bangladesh can achieve the target set in Intended Nationally Determined Contributions (INDC).

During the discussion, there was a range of compelling key messages raised by the waste workers.

The first message from the discussion was that women workers want to drive the vans that are used in the waste collection process. Women are willing and wanting to access different livelihood opportunities, and these women believe this is one opportunity to expand their livelihood options. Women are often the most neglected and most undermined in this male-dominated society. Women are working hard, but their salary is always lower than men, even for the same work. For that reason, women believe that if the Government or any private organization gave them a chance for the alternative livelihood position, like van driving training, they would be able to increase their financial stability. The message portrayed in the discussions was that they want to show their availability and their hard-working expertise.

The second message that came through was that small

actions could help raise the awareness of the challenges informal workers face. Women and underprivileged children are working as sweepers or sorting and processing for recycling. However, there was no initiative for the health and safety issues they face. Although occurring in small quantities, hazardous solid waste can have significant negative impacts on human health and the environment when improperly disposed of. Hazardous waste poses a substantial present or potential hazard to humans or other living organisms because they are non-degradable, are persistent, or are lethal. Most of the time, solid waste was not separate; solid wastes are any discarded or abandoned materials. Solid wastes can be solid, liquid, and semi-solid or containerized gaseous material. Women workers who have the lowest paid positions often have the most difficult jobs are exposed to these chemicals and toxic waste, with little understanding of the impacts this can have on their health. Nor are they giving and training as to how to handle and dispose of this waste safely. Over time they face terrible health and safety impacts.

Government and private collaboration are one of the most useful ways to contribute to the upcoming eighth Five-Year Action Plan. It was proposed through this plan; the Government can create a knowledge-sharing platform to engage all municipalities and develop a coordinated strategy for waste management. Solid waste management is one of the significant concerns in Bangladesh because of the lack of waste dumping stations and proper waste management. In Bangladesh have no article and also no enough rules and regulations, so, we have to establish article because a rules and regulation can raise the social awareness.

On the other hand, some issues came out that were more relevant for sustainable waste management for Green Cities. For the creation of resilient green city there is a need to build our awareness and maintenance infrastructure. Bangladesh is now continuously developing but our waste collection and management is not yet well developed. To make a resilient city, we should be focused on proper waste management and maintenance. As well as different training arrangements for informal workers, where their work environment feels secure.

As a country that has developed its Nationally Determined Contributions (NDC) with a time frame for completion in 2030, Bangladesh is required under the Paris Agreement to submit an updated NDC by 2020. Bangladesh is committed to taking a progressive approach to developing its economy through a low carbon pathway. In Bangladesh, sometimes the mismanagement of solid waste management is contributing to increasing GHG emissions because of waste burning. At times people in Bangladesh believe that the soil fertility will increase when the dirt waste is burned and added to the soil. However, this perception is wrong and as a result people unknowingly apply this wrong knowledge to the environment.

This session was vital because informal workers had

the ability to collaborate and speak with development practitioners, experts and people in Government. Workers were allowed to express their issues and explain their experiences from the ground level. In their whole life, these informal workers have been working in the same sector, and they have better experiences than others at the field level. First of all, informal workers are working in the field without health and safety and also working late at night, where unforeseen issues are complicated. Secondly, they are working hard, based on that they do not receive enough money for the work they are doing from municipalities. The amount of money workers receives is too low and is not enough to survive; they have no alternative livelihood option also. Moreover, they have the right to a better working environment within the waste management sector and also

“ Although occurring in small quantities, hazardous solid waste can have significant negative impacts on human health and the environment when improperly disposed of ”

have different kinds of training which would aid in improving their livelihoods.

Throughout the discussion, government officials, experts, researchers, and academics all agreed that no one could do anything on their own. What if all of these stakeholders work together? Then the goals the current Bangladesh seventh five-year plan and the upcoming eighth five-year plan would be able to be achieved. Bangladesh is now developing, and its economic development is continually expanding. However, there is a lack of motivation and a lack of knowledge-sharing platforms which would contribute significantly to the growth of Bangladesh. A focus at the policy level, creating leadership at the municipality level and also awareness building at the community level would encourage development in a positive. And we hope one day we should say Bangladesh has its capacity so, now anyone can follow our strategy ■

Md Hafizur Rahman is Project Officer at the International Centre for Climate Change and Development.



Let's live an organic lifestyle together

As part of this planet, we are born, grow and die in an organic manner. Yet the older we get, the more we drift away from nature; we indulge in synthetic, artificial foods and drinks which poison our bodies and minds.

At Kazi & Kazi Tea, we understand the need for organic farming to help you live healthier, happier lives. We not only grow the best organic tea on our single-estate garden, with soil untainted with chemicals or fertilizers, we also try to inspire an organic lifestyle for the community and the environment.

This is how we live, grow and provide Tea for Life.



100% Organic