

Conference Proceeding



Fourth
Annual National Conference on
**Urban Resilience to
Climate Change 2019**



Fourth Annual National Conference on Urban Resilience to Climate Change

Building Climate Resilient, Migrant Friendly Cities and Town

22-24 October, 2019

Institute of Architects Bangladesh (IAB), Agargaon, Dhaka

Organized by

Asian Cities Climate Change Resilience Network (ACCCRN)
International Centre for Climate Change and Development (ICCCAD)
and Independent University Bangladesh (IUB)

This publication is based upon the outcomes of the three days Fourth Annual National Conference on Urban Resilience to Climate Change and has been compiled from the notes taken by the respective rapporteurs. The publication is a summary from the organizer's point of view and does not necessarily express the views of each individual participant.

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1 ACKNOWLEDGEMENT

The Fourth Annual National Conference on Urban Resilience to Climate Change has been jointly organized by the International Centre for Climate Change and Development (ICCCAD) at Independent University, Bangladesh (IUB) and the Asian Cities Climate Change Resilient Network (ACCCRN).

The conference is co-sponsored by, BRAC-UDP, BARCIK, Concern Worldwide, Christian Aid, CARE Bangladesh, GIZ Bangladesh, Practical Action Bangladesh, WaterAid and Municipal Association of Bangladesh (MAB). This national conference is supported by Bangladesh Urban Forum (BUF) and MAB.

ICCCAD is grateful to the organizers, co-sponsors and supporters who made the conference a success. ICCCAD is also thankful to all moderators, session chairs, panelists, participants who brought their insights to the conference.

ICCCAD wants to thank all the rapporteurs and volunteers for their participation and hard work in making this conference run smoothly and contributing to this report.

2 ABBREVIATIONS

3R	Reduce-Reuse-Recycle
8FYP	8th Five Year Plan
ACCCRN	Asian Cities Climate Change Resilient Network
ADP	Annual Development Plans
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BIP	Bangladesh Institute of Planners
BNBC	Bangladesh National Building Code
BPGMEA	Bangladesh Plastic Goods Manufacturers & Exporters Association
BRAC	Bangladesh Rural Advancement Committee
BUF	Bangladesh Urban Forum
C3ER	Centre for Climate Change and Environmental Research
CCTV	Closed-circuit television
CES	Cultural Ecosystem Services
CSD-ULAB	Center for Sustainable Development- University of Liberal Arts, Bangladesh
CSR	Corporate Social Responsibility
CUP	Coalition for the Urban Poor
CUS	Center for Urban Studies
DEEPER	Dhaka Earthquake and Emergency Preparedness - Enhancing Resilience
DESCO	Dhaka Electric Supply Company
DNCC	Dhaka North City Corporation
DoE	Department of Environment
DRR	Disaster Risk Reduction
DSCC	Dhaka South City Cooperation
DSS	Department of Social Services
EIA	Environmental Impact Assessment
EU	European Union

FGD	Focus Group Discussion
GED	General Economics Division
GHG	greenhouse gas
GoB	Government of Bangladesh
IAB	Institute of Architects Bangladesh
ICCCAD	International Centre for Climate Change and Development
ICDDRDB	International Centre for Diarrhoeal Disease Research, Bangladesh
ICT	Information Communication and Technology
INGO	International Non-Government Organization
IUB	Independent University of Bangladesh
JSC	Junior School Certificate
JSC	Junior School Certificate
JU	Jahangir University
KCC	Khulna City Corporation
KDA	Khulna Development Authority
KfW	German state-owned development bank, based in Frankfurt.
KII	Key Informant Interview
LGD	Local Government Division
LGED	Local Government Engineering Department
MAB	Municipality Association of Bangladesh
MoEF&CC	Ministry of Environment, Forests & Climate Change
MOLGRD&C	Ministry of Local Government, Rural Development and Co-operatives
MoSW	Ministry of Social Welfare
MSW	municipal solid waste
NEOC	National Emergency Operation Center
NGO	Non-Government Organization
NRP	National Resilience Programme
PKSF	Palli Karma Sahayak Foundation

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POBA	Poribesh Bachou Andolon
PPCP	Public-Private-Community Partnership
PPP	Public Private Partnership
RDF	refused derived fuel
RIICB	Resilient, Inclusive and Innovative Cities in Bangladesh
RMC	Rural Maintenance Committee
SDG	Sustainable Development Goals
SOD	Standing Order for Disasters
SSC	Secondary School Certificate
SSC	Secondary School Certificate
UDP	Urban Development Programme
UGS	urban green space
UNRCO	UN Resident Coordinator's Office
URP	Urban Regional Planning
URP	Urban Resilience Programme
WASA	Water Supply & Sewerage Authority
WHO	World Health Organization
WtE	waste to energy

3 BACKGROUND

URBAN RESILIENCE CONFERENCE

Bangladesh has been experiencing rapid growth in urban population for the last few decades. This growth follows an imbalanced spatial distribution, mostly directed towards Dhaka- the capital city. More than 60 percent of Bangladesh's urban population is concentrated in four major cities: Dhaka, Chittagong, Khulna, and Rajshahi. By 2035, nearly 110 million people are expected to inhabit urban areas in the country, constituting about half of its total population. Migration from rural climate-stricken areas to urban-developed areas is common. Better Economic factors and public facilities in the cities contribute toward rural-urban migration. Additionally, climatic events including flood, cyclone, riverbank erosion, saline water intrusion and drought, are key drivers contributing to migration into major cities. The growth of informal settlements, housing development projects, and associated infrastructure construction are occurring at the cost of loss (or degradation) of natural resources, thereby affecting residents' wellbeing.

Cities and urban centres are economic and innovation hubs, as a result, such areas will be a major force assisting countries to achieve the Paris Agreement and the Sustainable Development Goals (SDGs) goal 11 and goal 13. Building resilient cities and urban areas create the potential for a resilient Bangladesh. The country needs to incentivize citizens to migrate to nearby urban centres instead of migrating to major cities. It is projected that around 13 million people within Bangladesh are likely to be displaced by 2050, eventually migrating to Dhaka and other big cities, where climate migrants are expected to outnumber the internal migrants. It will be difficult for cities like Dhaka to absorb this massive influx of climate migrants. Hence, building climate-resilient and migrant-friendly cities and towns in Bangladesh has become of urgent importance to tackle the adverse effects of climate change.

Secondary cities and towns adjacent to economic hubs, seaports, river ports, and export processing zones can provide unique opportunities regarding geographic location and spacing of urban centres. Climate resilience, with a focus on transformative adaptation at the local, community, and national levels (addressing tailor-made solutions to climatic risks and economic opportunities) can potentially attract millions of migrants who are feared to be displaced. However, making cities and towns climate-resilient and migrant-friendly requires extensive planning, vertical and horizontal coordination among key stakeholders and investments in both human and physical resources. Implementation of this new concept necessitates a comprehensive programme, including cooperation from relevant organizations and having the central government as the anchor. Government and non-government initiatives mostly focus on enhancing urban climate resilience. However, activities towards making cities migrant-friendly have gained less attention.

In this context, the Asian Cities Climate Change Resilience Network (ACCCRN), International Center for Climate Change and Development (ICCCAD), along with multiple other partners organized the Fourth Annual National Conference on Urban Resilience to Climate Change from 22th - 24th October 2019 at the Institute of Architects Bangladesh (IAB), Dhaka. The conference is aimed at sharing research knowledge, identifying knowledge gaps in policy and action plans, and exploring ideas and options for multi-stakeholder collaboration. In the process, this conference is also expected to increase the capacity of city corporations, municipalities, and CBOs in building climate-resilient and migrant-friendly cities and towns at the local level.

4 BIOGRAPHIES

	<p>Habibun Nahar Deputy Minister, Ministry of Environment, Forest and Climate Change</p> <p><i>Chief guest, Plenary 3 & Concluding Session</i></p>		<p>Dr. Saleemul Huq Director, ICCCAD at IUB</p> <p><i>Session Chair, Inaugural Session; Session Chair, PSB1; Session Chair, PSD1; Session Chair, Plenary 3 and Concluding Session; Discussant, Plenary Session 1; Moderator, PSA1; Moderator, PSC1; Concluding Remark, PSA3</i></p>
	<p>Dr. Shamsul Alam Member, Planning Commission</p> <p><i>Special guest, Plenary 3 & Concluding Session</i></p>		<p>Dr. Qazi Kholiqzaman Ahmad Chairman, PKSF</p> <p><i>Special guest, Plenary 3 & Concluding Session</i></p>
	<p>John I. Carruthers, Ph.D., Director, Sustainable Urban Planning Program College of Professional Studies, The George Washington University</p> <p><i>Keynote Speaker, Inaugural Session</i></p>		<p>Professor Ainun Nishat Professor Emeritus, Centre for Climate Change and Environmental Research (C3ER), BRAC University</p> <p><i>Chief guest, PSA1</i></p>
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	<p>Rashad Haldar, General Secretary, Bangladesh Awami Bastohara League Central Committee. <i>Panelist, PSA2</i></p>		<p>Abu Naser Khan, Chairman, Poribesh Bachou Andolon (POBA) <i>Session Chair, PSA2</i></p>
	<p>Pavel Partha, Researcher and Director of Education, Culture and Diversity, BARCIK <i>Moderator, PSA2</i></p>		<p>Tahsin Rahman, Student, Independent University Bangladesh <i>Presenter, PSA3</i></p>
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	<p>Abida Afrin, Social Service Officer, Department of Social Services (DSS), UCD -1, Khulna <i>Discussant, Plenary Session 2</i></p>		<p>Mr. Rezaul Karim Khokon, Chairman, Smiling Rainbow Foundation Bangladesh <i>Discussant, PSB1</i></p>

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	<p>Adv. Azmat Ullah Khan, Founder President and Advisor of MAB <i>Chief Guest, PSC1</i></p>		<p>Mr. Dewan Kamal Ahmed, President MAB & Mayor, Nilphamari Municipality <i>Session Chair, PSC1</i></p>
	<p>Mr. Md. Khalid Hossain Yead, Mayor, Madaripur Municipality and Joint Secretary General, (MAB) <i>Keynote Speaker, PSC1</i></p>		<p>Mr. Md Nurullah, Former Chief Engineer, DSCC <i>Discussant, PSC1</i></p>

	<p>Dr. Tofail Ahmed, Vice Chancellor (Designate), Britannia University, Cumilla <i>Discussant, PSC1</i></p>		<p>Gazi Kamrul Huda Selim, Executive Member of MAB & Mayor, Manikgonj Municipality <i>Moderator, PSC1</i></p>
	<p>Dr. M. Shafiq-Ur_Rahman, Professor and chairman , Department of URP, JU <i>Discussant, PSC2; Discussant, Plenary 3 & Concluding Session</i></p>		<p>Sherpard Zvigadza, Visiting Researcher, ICCCAD <i>Presenter, PSC2</i></p>
	<p>Dr. Rumana Sultana, Assistant Professor, CSD-ULAB <i>Presenter, PSC2</i></p>		<p>Karisma Amjad, PhD Fellow, Institute of Social Welfare and Research University <i>Presenter, PSC2</i></p>
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	<p>Mr. Zulfikar Ali, Mayor, Mongla Port Municipality <i>Discussant, PSD1</i></p>		<p>Ashrafal Haque Research Officer, Climate Induced Migration Team, ICCCAD <i>Study finding Sharing, PSD1</i></p>

	<p>Sumaiya Binte Anwar Research Officer, Climate Induced Migration Team, ICCCAD</p> <p><i>Study finding Sharing, PSD1</i></p>		<p>Mr. Md. Abu Bakar Siddique, (Joint Secretary), Director-Food For Work, Department of Disaster Management</p> <p><i>Chief Guest, PSD2</i></p>
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	<p>Mr. Ead Becirevic, DRR Delegate, German Red Cross - Bangladesh</p> <p><i>Special Guest, PSD2</i></p>		<p>Mr. Md Jafar Iqbal, National Coordinator, Needs Assessment Working Group-Bangladesh and Program Manager, Emergency Response, CARE Bangladesh</p> <p><i>Keynote Presentation, PSD2</i></p>
	<p>Ms. Shahana Hayat, Humanitarian Program Manager, Christian Aid</p> <p><i>Keynote Presentation, PSD2</i></p>		<p>Faruk-Ul-Islam, PhD, Head of Business Development & Quality Assurance; Practical Action</p> <p><i>Welcome Speech, PSD3</i></p>
	<p>Uttam Kumar Saha, Strategic Lead-Urban and Energy; Practical Action</p> <p><i>Moderator, PSD3</i></p>		<p>Dr. Tariq Bin Yousuf, Superintending Engineer-Environment, Climate and Disaster Management Circle; DNCC</p> <p><i>Keynote Presenter, PSD3</i></p>
	<p>Mahobul Islam, Specialist- Integrated Waste Management; Practical Action</p> <p><i>Keynote Presenter, PSD3</i></p>		<p>Shamim Ahmed, Former President; Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA)</p> <p><i>Panelist, PSD3</i></p>

	<p>Dr. Mahfuzul Haque, Adjunct Faculty; Bangladesh University of Professionals</p> <p><i>Panelist, PSD3</i></p>		<p>Md. Shafiqul Islam Akand, Additional Chief Engineer, Urban Management-LGED</p> <p><i>Chief Guest, PSD3</i></p>
	<p>Dilruba Haider, Programme Specialist, DRR, Climate Change and Humanitarian Actions, Bangladesh Country Office, UN Women</p> <p><i>Discussant, Plenary 3 & Concluding Session</i></p>		<p>Dr. Nurun Nahar, Bangladesh Planning Commission</p> <p><i>Discussant, Plenary 3 & Concluding Session</i></p>
	<p>Farah Kabir, Country Director, ActionAid Bangladesh</p> <p><i>Discussant, Plenary 3 & Concluding Session</i></p>		

5 METHODOLOGY

5.1 Structure and Programme of the Fourth Annual National Conference on Urban Resilience to Climate Change

		Day 1: 22 October, 2019 (Tuesday)	Day 2: 23 October, 2019 (Wednesday)	Day 3: 24 October, 2019 (Thursday)	
MORNING	09:00-09:45	REGISTRATION		REGISTRATION	
	10:00-11:30	Inaugural Session Welcome Speech Keynote Presentation Speech by Special Guest Speech by Chief Guest Multi-Purpose Hall	Plenary Session 2: Poverty-Mitigation Practices for Climate Migrants and Vulnerable Households at City Level Host: GIZ	PSD1: Climate-Resilient, Migrant-Friendly Town: A Case Study of Mongla Port Municipality Host: PROKAS-ICCAD	
	11:30-12:00	TEA BREAK			
	12:00-13:30	Plenary Session: 1 Building a Resilient, Inclusive and Sustainable Urban Health System: Why the Leadership Role of Cities and Towns are the Key Host: Concern Worldwide	PSB1: Story of Urban Street Children Host: ICCCAD	PSB2: Promotion of Urban Rainwater Harvesting and Recharge Host: WaterAid Multi-Purpose Hall	PSD2: Urban Disaster Resilience in Urban Sector Policies Host: Christian Aid & CARE BD
AFTERNOON	13:30-14:30	LUNCH BREAK			
	14:30-16:00	PSA1: Public-Private-Community Partnership (PPCP) in Building Migrant-Friendly Resilient Cities and Towns in Bangladesh	PSA2: Urban Hazard and Housing for the Poor Host: BARCIK & ICCCAD Seminar Room	PSC1: Role of the Municipalities in Bangladesh and Scope of Municipal Association of Bangladesh (MAB) in Achieving Sustainable Development Goals (SDGs) Host: MAB	PSD3: Integrated and Sustainable Waste Management for Socioeconomic Empowerment of Informal Workers Host: Practical Action
	16:00-16:30	TEA BREAK			
	16:30-18:00	PSA3: Youth and Climate Change: Innovative Ideas for a Clean Urban Environment Host: ICCCAD Multi-Purpose Hall	PSC2: Out of the Box Host: ICCCAD Multi-Purpose Hall	Plenary Session 3: Summary of the Conference: Towards Building Migrant Friendly, Climate Resilient Cities and Towns in Bangladesh Host: ICCCAD Urban Climate Resilience Award and Concluding Session Multi-Purpose Hall	

5.2 INAUGURAL SESSION

Welcome Address: **Sarder Shafiqul Alam**, Coordinator, Urban Climate Change, ICCCAD
Keynote Speaker: **John I. Carruthers**, Associate Professor in the Department of City and Regional Planning, Cornell University
Special Guests: **Mostafa Quaium Khan**, Advisor, Bangladesh Urban Forum (BUF)
Session Chair: **Dr. Saleemul Huq**, Director, International Centre for Climate Change and Development (ICCCAD)

Sarder Shafiqul Alam, Coordinator of Urban Climate Change Programme at ICCCAD welcomed everyone to the Fourth National Conference on Urban Resilience. The three-day conference is aimed towards sharing research knowledge, identifying knowledge gaps in policy and action plans, and exploring ideas and options for multi-stakeholder collaboration. This year the conference focuses on identifying actions required to enhance Bangladesh's resilience to climate change through building climate-resilient and migrant-friendly cities and towns at the local level.

John I. Carruthers, Associate Professor in the Department of City and Regional Planning, Cornell University presented on "Migrant Friendly Cities: People, Places and the Environment". He began his presentation mentioning that people need to remain free to make their own choices when it comes to migration. It has become difficult to make people move where we want them to go. Researchers at the University of Pennsylvania made a map of living quality during the Great Depression by taking into account household income, the percentage of radio owners, and the percentage of telephone owners. With that study, they wanted to identify what it would take to make people move from areas of the low quality of life to areas with a high quality of life. Policymakers at the time wanted people to migrate, but they could not make them move where they would have better lives. This gave rise to the question: do people follow jobs or do jobs follow people?



John I. Carruthers giving his keynote presentation at the inaugural Session

Professor Carruthers drew on his personal experience with choosing to migrate. He decided to move to a place with better opportunities for his family. Migration is the result of opportunity and preference. An equilibrium state would be when people do not need to move. He added that quality of life is a crucial differential to consider when making an informed decision on where people should migrate.

Quality of life is fundamental to human prosperity, thus making a climate-resilient migrant-friendly city that provides people with amenities while ensuring livelihoods a critical way forward.

One of the Struggles in Bangladesh has been the rapidly growing population of Dhaka, which has transformed into a mega city hosting 40 million people. This is a huge number monitor, in particular people's movement into and out of the city. There is a surplus of informal settlements in the city and many skilled laborers living within them, including sugar cane juice sellers, weavers, and other day laborer. However, slums are very densely populated and lack the quality of life that dwellers deserve. To ease the pressure on Dhaka city, people need to be spread out while ensuring their access to amenities. But the question remains, how to achieve this task. Building climate-resilient, migrant-friendly cities, and towns would be a great idea to achieve this task in the following ways;

- A number of secondary towns should be identified which could attract and absorb at least a million migrants each.
- Bottom-up, participatory approach is required to identify local needs and action plans.
- All relevant actors should play their respective role to facilitate cooperative and collaborative actions.
- Investment is needed in both human and physical domains to make these towns both “climate resilient” and “migrant-friendly”.
- Each of these towns needs to invest in manufacturing and/or services that will generate employment.
- Both public and private initiatives and investment is required.
- Central government should play the anchor role and bring all the actors on the same platform.



Audience during the inaugural session

Mr. Carruthers also highlighted a few other concepts:

Concept 1 Looked into Plane of Living: the decision to move from one place to another must be well informed so that potential migrants can determine the quality of life differential. For example, when a migrant comes to Dhaka today, they need to be informed about why they chose Dhaka.

Concept 2 Migration: Chicken or Egg? Working on job creation is important. Economic models over a long period have shown that as migrants flow into the city, they take up jobs and raise the entire economy of the country. Full dissemination of information is important for people to be able to choose if Dhaka or a secondary city like Mongla is a better place to move.

Concept 3 Spatial Equilibrium: Quality of life has an economic value. It makes our societies healthier and is fundamental to human prosperity.

Human capital is a nation’s greatest asset, regardless of the country. There are a lot of young people in Bangladesh and they are the future of the country.

Mr. Carruthers touched on the importance of natural resources, especially in the aspect of the Sundarbans. When we think about how people are moving, we have to think about the unique role that the forest will play. The natural beauty of this place is unquestionable. The Padma Multipurpose Bridge Project there will eliminate the transportation cost between Dhaka and Khulna and open up the southwest of the county for development. Ecotourism is already popular there. We need to recognize that humans protect this earth and tap into such resources.

Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF), acting as the special guest for the session, said that for the last four urban conferences, participants have been learning the relevance and importance of urban resilience. He talked about the huge potential of human capital and how it should be invested. Utilizing what we have should be a way forward for us to help this nation.



Prof. Saleemul Huq's speech at the inaugural session

Dr. Saleemul Huq, Director, ICCCAD remarked that “*what we want to do is light a spark with people we meet here.*” He mentioned his desire to use this conference as an idea-generating hub in the years to come, while sharing his idea on quality education as a driver to ensure preference in migration where our future generations can choose where to migrate. He encouraged everyone to use this conference to learn new information, create an idea-sharing network, see old colleagues, and meet new people. He urged participants of the event to come forward with new ideas for collaborations. Dr. Huq shared the backstory of how Professor Carruthers was first invited to the first National Conference on Urban resilience, and since then has been coming to speak at the conference and interact with us.

This is the fourth urban conference, which started as a way to bring together everyone working in big cities to smaller towns. The three-day conference is funded by sponsors. We hope that from now on, this is a self-sustaining conference, which brings individuals to share ideas and solutions.

Urbanization in Bangladesh is very Dhaka centric and climate change has been a factor behind the movement of people to the city. 10 million people will no longer be able to continue their livelihoods in the coastal areas. Satkhira and Barisal will have to switch from agriculture to shrimp farming. In the short term, we can help them adapt. In the long term, we can help them move. We have to create schools and colleges with dormitories that are safe. Scholarships could be a way to incentivize young people from coastal areas to come and study in secondary towns, increasing their familiarity with the place. They could bring their parents and grandparents with them. This way, they could migrate with a preference instead of out of distress. If it is done right, it could be a solution for the rest of the world. We need to start planning and coping now because we are locked into climatic impacts.

Dr. Huq reiterated that going forward a resolution for each person attending this conference should be to do something themselves, not wait for someone else to do something. He pledged to do so and he urged participants to share their pledges with him.

Key Recommendations:

- Create economic opportunity through job creation and preferences for migrants to choose their destination
- A number of secondary towns should be developed to attract and absorb migrants
- Bottom-up, participatory approach is required to identify local needs and action plans.
- Investment is needed in both human and physical domains to make these towns both “climate resilient” and “migrant-friendly”.
- Natural resources like Sundarbans are important and economic and existence value has to be considered in development planning to make city resilient.
- Human capital is a nation’s greatest asset and youths have to be educated and capacitated.
- Develop safe schools and colleges with dormitories for students.
- Scholarships could be a way to incentivize young people from coastal areas to come and study in secondary towns, increasing their familiarity with the place.
- Full dissemination of information is important for people to be able to choose their destination for migration
- Both public and private initiatives and investment is required.
- All relevant actors should play their respective role to facilitate cooperative and collaborative actions.
- Central government should play the anchor role and bring all the actors on the same platform.

5.3 TECHNICAL SESSIONS

There were three plenary and ten parallel sessions in the conference. The plenary sessions were titled:

1. Building a Resilient, Inclusive and Sustainable Urban Health System: Why the Leadership Role of Cities and Towns are the Key;
2. Poverty-Mitigation Practices for Climate Migrants and Vulnerable Households at City Level
3. Summary of the Conference: Towards Building Migrant Friendly, Climate Resilient Cities and Towns in Bangladesh

The following parallel sessions covered various themes in build-up the plenary sessions:

1. Public-Private-Community Partnership (PPCP) in Building Migrant-Friendly Resilient Cities and Towns in Bangladesh
2. Urban Hazard and Housing for the Poor
3. Youth and Climate Change: Innovative Ideas for a Clean Urban Environment
4. Story of Urban Street Children
5. Promotion of Urban Rainwater Harvesting and Recharge
6. Role of the Municipalities in Bangladesh and Scope of Municipal Association of Bangladesh (MAB) in Achieving Sustainable Development Goals (SDGs)
7. Out of the Box Session
8. Climate-Resilient, Migrant-Friendly Town: A Case Study of Mongla Port Municipality
9. Urban Disaster Resilience in Urban Sector Policies
10. Integrated and Sustainable Waste Management for Socioeconomic Empowerment of Informal Workers

The International Centre for Climate Change and Development (ICCCAD) at Independent University, Bangladesh (IUB) and the Asian Cities Climate Change Resilient Network (ACCCRN) Bangladesh jointly organized The Fourth Annual National Conference to Climate Change in association with BRAC-UDP, BARCIK, Concern Worldwide, Christian Aid, CARE Bangladesh, GIZ Bangladesh, Practical Action Bangladesh, WaterAid and Municipal Association of Bangladesh (MAB). This national conference is supported by Bangladesh Urban Forum (BUF) and MAB.

6 OUTOUTS AND DISCUSSIONS OF TECHNICALA SESSIONS: PARALLEL AND PLENARY

6.1 Plenary Session 1: Building a Resilient, Inclusive and Sustainable Urban Health System: Why the Leadership Role of Cities and Towns the Key

Host/Co-sponsor: Concern Worldwide

Welcome address: A.K.M. Musha, Country Director, Concern Worldwide

Keynote Presenter: Md. Mosarouf Hossain, Program Manager, PROSHOMON, Concern Worldwide

Special Guest: Zahida Fizza Kabir, Executive Director, Sajida Foundation

Nasir Uddin Ahmed, Mayor, Chandpur Municipality

Haji Alauddin, Mayor, Feni Municipality

Discussants: Dr. Saleemul Huq, Director, ICCCAD

Abdul Motin, Chief-Clinic Operation, Surjer Hashi Network Bangladesh

Session Chair: Mesbah Uddin, Joint Secretary, Urban Development Wing, Local Government Division (LGD) and Project Director, EU Support to Health and Nutrition to the Poor in Urban Bangladesh, LGD, MOLGRD&C (Ministry of Local Government, Rural Development and Co-operatives)

Moderator: Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF)

A.K.M. Musha, Country Director, Concern Worldwide opened the session addressing the importance of health issues in terms of climate change. The World Health Organization (WHO) declared that Bangladesh went up in the health sector considering the improving health situation. But Bangladesh is still struggling to improve the infant death rate. To improve the health sector, a holistic effort is needed which includes the government and non-government sectors. It is also necessary to understand that the initiatives of the environment and sustainable development have to be citizen-friendly, as well as accommodating to the needs of the urban population. Addressing the need of the rural population is crucial as the rural population is double that of the urban population. It is important to understand what initiatives are needed to prepare ourselves to be more climate-resilient for the future.

Md Mosarouf Hossain, Program Manager, PROSHOMON, Concern Worldwide, presented on the topic, "Building a resilient, inclusive and sustainable urban health system: Why the leadership role of Cities and Towns are the Key". He started by talking about Greta Thunberg, her climate movement and how it has made significant strides worldwide, paving climate change issues onto the forefront of discussions.

The presenter briefly talked about different health issues related to climate change such as heat stress, extreme weather-related diseases, vector-borne disease, air pollution and how it affects human health. The rise in dengue fever became an alarming health concern in Dhaka this year. The number of affected people increased significantly which topped the last 18 years of dengue cases combined. Mr. Hossain presented a figure by UN DESA/Population Division which projects that by the year 2050 almost 60 percent of Bangladesh's proportion of the total population will be living in the urban areas. This is another alarming issue as we are already facing severe environmental and health issues due to the high population. Most studies used to evaluate health conditions often ignore slums; ironically, they are the most



Md. Mosarouf Hossain giving his presentation at the first plenary session

vulnerable ones, with slums accommodating most of the migrants from rural areas. These slums will only get bigger in the future. It is not only happening in Dhaka but also in different towns in Bangladesh.

The Sustainable Development Goals (SDGs) goal 3 addresses health as an important concern for future development. It was noted that people in the slums are more neglected when it comes to health services. In many cases, the population and health census are not reliable. The municipalities need to be disintegrated and we need to develop a census for both the slum and non-slum people for better health services.

The presentation also spanned how the health sector in Bangladesh became weak through years of a lack of proper regulations. Instead of a trained medical professional who knows the wider population, the health sector has been slowly overtaken by non – medical professionals in the last 20 years. They are more concerned about the business of selling medicine instead of the wellbeing of the general people. This practice ultimately gave rise to another alarming health issue – our resistance to many antibiotics in our bodies.

An initiative by Concern Worldwide called PROSHOMAN supports the Government of Bangladesh, it is a digital health financing scheme for the urban poor people. The Scheme has 15,000 Households in Chandpur and Feni as its beneficiary. The smart card through PROSHOMON provides free health services for health issues including maternity, primary health care, and accidental injury. This service is managed with online software, and each beneficiary per household receives a card. One of the challenges that came to light was most of the urban poor are labours who are paid for their work on a daily basis. Should they come to the health centre for this service, they will be excluded as they are earning. Therefore, making the health service free of cost by using the smart card gives them a little benefit.

The Municipal Act 2009 states that city authorities are supposed to provide proper health services to the city dwellers. Therefore, Concern Worldwide assisted the local government in developing a proposal. The municipality of Chandpur already allocated a budget of 5.5. Million taka to implement a similar project like PROSHOMON titled “Municipality Health Coverage Project”. Also, the Local Government Division of MOLGRD&C is exploring to take over the model to other municipalities.

The key issues towards a resilient, inclusive and sustainable urban health system includes: the municipalities having a sense of ownership, leadership in integrating the infrastructure development and planning issues properly; system strengthening accompanied with digital and innovative products and services; and an innovative financing mechanism for integrated development.

Discussion:

One participant mentioned that a major problem in the Bangladesh health system has been the behavior of doctors and health practitioners. Patients are not usually satisfied with the service available and provided by the urban doctors. Monitoring the doctors is crucial to ensure their accountability to provide better health services.

Another participant raised the important issue of youth, children and women being highly vulnerable to environmental pollution and that is it not always taken into consideration.

One of the participants mentioned that Chattogram Municipality has 53 health care centre in 41 wards. Around 41 thousand of poor people will come under free health access. There is a health committee for every ward where health care will be given. Waterlogging is a huge problem in Chattogram which needs to be solved to prevent water-borne diseases.



Opinion sharing by the participants at the first plenary session

Another participant appreciated the initiative by Concern worldwide and mentioned that this free health access should be widespread in Bangladesh and any available digital access should be updated.

One more participant mentioned that the urban population census is old and it needs to be updated. Also, we should not just rely on the smart card and go to the hospitals after getting sick. Preventing health problems is more effective than any health care system/scheme especially for the poor. Quality assurance in the health sector needs support from the private sector. At the same time, the private health care system needs to be monitored and should be brought under a regulatory scheme to ensure proper health care facilities. Strong commitment from the municipality authority is needed, so even after the pilot, the project can go on. Human resources and funding have always been an issue for the municipalities so more assistance is needed. But just one specific system will not work for all the urban areas as the urban context is different in different places.

One more comment came from a participant addressing the need to increase health education and awareness amongst people as a means to prevent the spread of diseases. Increased awareness will prevent people's sole reliance on the free health care system.

Another recommendation that came out from the session has been the need for Bangladesh to have proper urban and regional planning. More peri-urban areas are growing but the question is if they have adequate infrastructure systems or not. Health benefit cards should be controlled by the community leaders and the private sector together. In the context of lack of budget - the local government needs to be integrated into this process so even after the donor leaves the system runs smoothly. Also, the Maternity health system needs improvement as well.

The chair of the session Mesbah Uddin Joint Secretary, Urban Development Wing, LGD and Project Director, EU Support to Health and Nutrition to the Poor in Urban Bangladesh, LGD, and MOLGRD&C concluded with a message to the local government development, mentioning that improvement of the health system for urban poor should be taken seriously. Climate change will have a severe impact on Bangladesh so preventing the health issues beforehand is necessary.



Mesbah Uddin giving his concluding remark at the first plenary session

Key Recommendation:

- Health sector improvement needs, a holistic effort with the government and non – government sectors.
- The municipalities need to be disintegrated and we need to develop a census for both the slum and non-slum people for better health services.
- Health practices must be focused on treating the patients first, rather than focusing on the business side of the practice.
- Healthcare should be distributed equitably, under the leadership of someone who understands urban dynamics properly.
- Local government needs to be integrated into the health system improvement process, to ensure the system runs smoothly after the donor leaves.
- Sustainable urban health system requires the municipalities to have a sense of ownership, to integrate these issues properly.
- Quality assurance in the health sector needs support from the private sector
- Private health care system needs to be monitored and should be brought under a regulatory scheme to ensure proper health care facilities.
- Monitoring the doctors is crucial to ensure their accountability to provide better health services.

6.2 Parallel Session PSA1: Public-Private-Community Partnership (PPCP) in Building Migrant-Friendly Resilient Cities and Towns in Bangladesh

Host/Co-sponsor: BRAC- Urban Development Programme (UDP)

Keynote Speaker: **Hasina Mushrofa**, Programme Head, BRAC UDP
Tazkin Ahmed, Mayor, Satkhira Municipality
Sharmin Nahar Nipa, Lecturer, and Coordinator, Centre for Climate Change and Environmental Research (C3ER), BRAC University

Special Guest: **Mr. Mirza Shawkat Ali**, Director (Climate Change & International Convention), Department of Environment
SM. Mehedi Ahsan, Senior Urban Resilience Specialist, KfW
Motaher Hossain, Joint Secretary Municipality Association of Bangladesh (MAB) & Mayor Sonaimuri Municipality

Chief Guest: **Professor Ainun Nishat**, Professor Emeritus, BRAC University

Session Chair: **Dr. Md. Liakath Ali**, Director – Urban Development and Climate Change, BRAC

Moderator: **Dr. Saleemul Huq**, Director, ICCCAD

Ms. Hasina Mushrofa, Programme Head of BRAC UDP started her keynote presentation with a welcome to the participants of the session. She focused on BRAC UDP's Experience on Public-Private-Community Partnership (PPCP) for supporting Climate Migrants. She mentioned that by the year 2020 the urban population will double and urban poverty will decrease. The National Poverty report states that 47 percent of the urban population cannot maintain their quality of life with their existing income. As such, it is important to build resilience in cities through various initiatives. In line with this, the initiatives undertaken by BRAC UDP mainly focus on the lines of three strategic priorities:

1. Ensuring the urban poor's access to adequate, safe and affordable housing, land tenure security and overall slum upgrading;
2. Cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, and resilience to disasters;
3. Strengthening urban governance for inclusive, accountable and pro-poor urban management and planning.



Ms. Hasina Mushrofa presenting on BRAC UDP

Ms. Mushrofa talks about the public-private community partnership model and the importance of understanding what the urban poor need. Public delivery mechanisms were mentioned, and she said that BRAC takes into account what the citizens want with the help of the city authority. The PPCP interventions at different locations of Bangladesh were mentioned and discussed in detail, which includes Livelihood Improvement/Asset Transfer Business Model, Gaibanda Master Plan, and Waste Management Plan in Savar-Saidpur-Rajshahi-Khulna-Mymensingh-Gazipur-Dhaka South City Cooperation (DSCC).

The way forward and the recommendations from the presentation by Ms. Mushrofa include the following: inclusive, climate-resilient, and Disaster Risk Reduction (DRR) responsive cities and towns; innovations on community needs-based solutions; and create grounded evidence. Governance matters at all tiers, including the national, regional and local levels. Partnerships and networking with national and global leaders and institutions

to learn and adapt are proven approaches and tools. An upscaling of initiatives and support to climate-vulnerable cities and towns is required.

Ms. Shamim Nahar, Lecturer and Coordinator, C3ER, BRAC University introduced her presentation topic on “Urbanization and Migration: A review of the current trend in Bangladesh”. Defining the terms “urbanization” and “migration”, Ms. Nahar talked about the link between urbanization and the population trend in Bangladesh, and the impact of migration in the process. She highlighted the challenges of rapid and unplanned urbanization.

Linking migration and climate change in Bangladesh she mentioned the advantages and disadvantages of rural to urban migration in Bangladesh.

Important recommendations for Bangladesh to address climate change-induced migration included:

- Establish a national tracking mechanism for displaced and migrated people.
- Establish a safety-net mechanism/fund for displaced and forcibly migrated people.
- Proper planning must be done to decentralize the migrants and accommodate them in different parts of Bangladesh.
- The unplanned slums must be uprooted and the migrants must be provided with proper housing facilities in a designated area on the outskirts of Dhaka city in a planned way.
- Provide skills training to transform rural migrant populations to skilled manpower in the city, to turn the unskilled influx of rural migrants into skilled manpower, and raise their productivity.
- NGOs and INGOs along with the Government must come forward to provide them with vocational training so that they can be easily absorbed in the modern industrial sector in urban areas.

Mr. Tazkin Ahmed, Mayor, Satkhira Municipality shared his experiences towards the development of his municipality, especially in the context of Satkhira being one of the most climate-vulnerable coastal regions of Bangladesh. He discussed the public-private community partnership (PPCP) in low-cost climate-resilient housing and overall low-income community upgrading. He identified the two main reasons for migration occurring in his constituency: slow onset and rapid onset events to climate change. Climate change issues such as salinity intrusion, waterlogging, water & food insecurity, sea level rises, etc. Climate events such as storms, cyclones, floods, and drainage congestion are namely the cause.

Mr. Ahmed also discussed low cost and climate-resilient housing models, which is a process initiated by their Pourashava. BRAC provided technical and financial support and the community facilitated the whole process. This is an example of a participatory process between the Pourashava, BRAC, and the Community. Moreover, he mentioned the scope of future collaboration, stating that the model is scalable, and there is an investment opportunity for donors, government and financial institutions. Its success will lead to an upgrading of an overall secure living environment for people living in urban poverty.

SM. Mehedi Ahsan, Senior Urban Resilience Specialist, KfW, acting as the special guest for the session talked about migration in general, he stated that most migrants in Bangladesh usually move to Dhaka, Gazipur, Naryanganj, and Khulna. One of the main reasons for migration is economic, and climate change plays a role in affecting livelihoods. The idea of migrant-friendly cities and the need for facilities to ensure that cities can host migrants and give them the best possible opportunities for livelihood and well-being is a prospective arena to work on.

Md. Motaher Hossain, Mayor, Sonaimuri Municipality, discussed his elected area and his overall responsibilities as a mayor. He shared his experiences concerning climate change and poverty in Sonaipuri Municipality, highlighting some of the key issues that migrant populations in his area face.

Dr. Adel Khan, Bangladesh Institute of Planners (BIP), Secretary talked about in-migration. He mentioned that cities do not have economic facilities and employment facilities required for the smooth enabling of migration. Migration is not just climate-induced. People migrate because they want a better life. Those who usually migrate

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because of climate stresses do so in the hope of a better life- for more economic opportunities. If other cities were better equipped, then climate-induced migration would not just fall on megacities. Regional development of other cities is therefore essential, otherwise Dhaka will continue to face these pressures. Regional centers must be given importance so they have equal education and health care facilities. In this way, migrants will get decent facilities wherever they migrate to instead of moving to Dhaka where there is pressure on resources, lack of adequate employment opportunities and overall risk of increased poverty.

Mirza Shawkat Ali, DoE, GOB named education, water and health as the three important areas that need focus and emphasis when building resilience to climate change. DoE worked with ICDDR, B and together they conducted a study on how climate change affects cholera. The study noted that there is a notable impact of climate change-induced weather and environmental changes on cholera. He shared that the Urban and Regional Planning Department has utilized 2.8 million dollars to prepare the National Adaptation Plan. The inception workshop is on the 26th of October, 2019 and he encourages participation from all stakeholders and wants to discuss how health could be incorporated in this document.

One of the participants from the session recommended that to facilitate public-private partnership we need a good platform to allow their interaction. Adding that any ideas people may have to make this happen are welcome at this conference.

Professor Ainun Nishat, C3ER, BRAC University acting as the chief guest to the session started by discussing the nature of migration- there is economic migration whereby people have to come to the city in search of work, another common cause for migration is due to natural disasters and environmental changes such as river erosion, where people lose their assets and homes and have no choice but to migrate. There is then a difference between permanent and temporary migration. After partition, there was another type of community-based migration, such as the Bihari camps. Therefore, migration is often inevitable. It is now important to think of ways to make migration a socially acceptable process, and to have facilities for migrants to settle in comfortably, for example, through slum management.



Panelist Discussion during the parallel session

Governance is a key issue in slums, and all slums are corrupted with drugs and abuse. Migrant communities often feel very insecure because they end up in these uncontrolled slums. Education, water, sanitation, health, communication, hazard protection, are the main issues that need to be addressed. Good governance is an important way to ensure this. Migration policies should facilitate the adjustment of migrant communities within host communities. Professor Nishat closed his speech by saying, "Authority without responsibility is meaningless." The point is that accountability is a necessity for holistic measures to bring about innovative and effective applications of research findings.



Group photo of panelists at the end of the parallel session

Dr. Md. Liakath Ali, Director of Urban Development and Climate Change programme, BRAC reemphasized the importance of public-private partnerships for supporting climate migration in Bangladesh, as part of his closing speech. He closed the session and appreciated all the comments made by the presenters and discussants.

Key Recommendations:

- Working with Climate Migrants requires both the host community and the migrants.
- Establish a national tracking mechanism for displaced and migrated people.
- Planned decentralization of the migrants to accommodate them in different parts of Bangladesh.
- Interventions should be taken to make migration a socially acceptable process.
- Establish a safety-net mechanism/fund for displaced people and forced migrants.
- Migrants should be provided with proper housing facilities in a designated area on the outskirts of Dhaka city in a planned way.
- Low-cost climate-resilient housing and overall low-income community upgrading for slums are needed.
- Livelihoods and work opportunities have to be ensured for migrants as well as for the host community.
- NGOs and INGOs along with the Government must ensure vocational training to migrants to prepare them as skilled manpower in the modern industrial sector of urban areas.
- All regional centers of Bangladesh must be supported to provide decent and equal education and health care facilities.
- Education, water, and health are the three important areas that need focus and emphasis when building resilience to climate change. Communication and hazard protection are also important.
- The PPCP model is important to understand the needs of urban poor.
- Public-private partnership requires a good platform to allow interaction amongst all actors.
- Inclusive, climate-resilient and DRR responsive cities and towns require innovations on community needs-based solutions and creating grounded evidence.
- Partnerships and networking with national and global leaders and institutions to learn and adapt are proven approaches and tools.
- Accountability is a necessity for holistic measures to bring about innovative and effective applications of research findings.

6.3 Parallel Session PSA2: Urban Hazard and Housing for the Poor

Host/Co-sponsor: BARCIK-ICCCAD

Presenter: Md. Zahangir Alam, Diversity, Interdependence and Pluralism Cell, BARCIK
Panelists: Salma A. Safi, Architect, and Urban planner, General Secretary, Center for Urban Studies (CUS)
Khandakar Rebaka Sun-Yet, Executive Director, Coalition for the Urban Poor (CUP)
Rashad Haldar, General Secretary, Bangladesh Awami Bastohara League Central Committee.
Session Chair: Abu Naser Khan, Chairman, Poribesh Bachou Andolon (POBA)
Moderator: Pavel Partha, Researcher and Director of Education, Culture and Diversity, BARCIK

Abu Naser Khan, Chairman, Poribesh Bachou Andolon (POBA) highlighted some of the activities BARCIK has been involved in the fields of environment, biodiversity conservation and development with utmost commitment and purpose since its inception. He added that about almost 2 crore people live in Dhaka and among them 40 lakh people live in an informal setting. People who live in this condition are prone to hazards and risks.

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Md. Zahangir Alam, Diversity, Interdependence and Pluralism Cell at BARCIK, gave his keynote presentation on the note Bangladesh is a disaster-prone country. The people from the village shift to Dhaka for various natural disasters such as floods, droughts, salinity intrusion, waterlogging, cyclone and water surges, and nor'westers. This has been a major reason for the movement of people from the rural to urban setting. Through their work, BARCIK has identified floods as a major player in this movement of people. People displaced mainly by floods accounted for 35 percent, river erosion accounted for 21.1 percent, drought accounted for 5 percent, crops losses accounted for 10 percent, and cyclones, storms and water surges accounted for 2.2% percent. Other factors, such as low tide, salinity and shrimp cultivation and water logging also resulted in the movement of people.



Abu Naser Khan, chair of the session expressing his opinion

Some of the hazards that migrants face after coming to Dhaka include:

- Summer hazards, including heat waves (43%), storms and rain (6%), water logging (5%), and fire (8%), which lead to diseases such as diarrhea, dysentery, fever, and asthma.
- Monsoon hazards, including waterlogging (78%), and floods (11%), which lead to diseases such as fever, cough, cold, and injuries.
- Winter hazards, including cold wave (37%), leading to diseases such as fever, cough, cold, and injuries.

Mr. Alam highlighted some of the risks and vulnerabilities of the poor in urban areas. He explained how the following conditions affect the quality of life of the urban poor:

- Living in unsafe conditions (urban slums)
- Densely populated areas
- Areas susceptible to waterlogging
- No drainage facilities
- Lack of sanitation and clean water
- Occurrence and likelihood of fire, building collapse, and accidents in the urban poor's workplaces
- Using unsafe materials for housing such as plastic and corrugated tin sheets
- Eating unhealthy food, such as waste and expired food
- Unsafe cooking place and fuel crisis
- Uncertainty of employment
- Safety at the workplace

To reduce the vulnerabilities of the urban poor, BARCIK has taken some initiatives. This includes arranging a free medical camp for the poor who can't afford health treatment. Policy Advocacy and Campaign on Housing Rights for Urban Poor was another initiative by the BARCIK to reduce their vulnerability. In this campaign, they discussed the rights of the people who live in the slum. They have also arranged a workshop for children and youth where they mainly wanted to know the students' visions for their dream houses through a drawing competition. BARCIK has also provided free seeds to poor slum-dwellers so that they can cultivate some summer vegetables. Contrariwise this cultivation will help to reduce the temperature, as these vegetables are mostly grown on the roof of the house providing shade. Also, training workshops for urban hazards and vulnerabilities, along with awareness campaigns for a clean environment and dengue have been conducted by BARCIK as their attempt to reduce the risks of the urban poor.

BARCIK mainly works prioritizing two goals from the Sendai Framework for Disaster Risk Reduction. The first goal is to understand disaster risk and the second goal is to enhance disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction.

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Mr. Alam, made some recommendations for the urban poor, which are of the utmost importance to ensure “Cities for All” where slum dwellers are accounted for in city development and planning:

1. Formulate a national guideline for an adaptive coping housing strategy for the urban poor
2. Identify and develop risk-sensitive housing for the urban poor
3. Prioritize climate-friendly materials for house construction
4. A special budget has to be allocated to reduce the risk and vulnerabilities in the poor urban areas.
5. Strictly avoid plastic as a housing material in slum
6. Eco-friendly, easy and cheap housing materials should be used

Legal rights recommendations for housing for the urban poor was also discussed by Mr. Alam, and he added:

- Vertical housing for the urban poor as an alternative to horizontal slum expansion
- Priority should be given to people who are more vulnerable (the urban slum committee and local government are jointly responsible for the priority list)
- Easy and no-interest housing loans
- The government has to put the urban poor and the loss and damage they face in global forums (COP/World Urban Forum), and to ensure global funds for urban resilience.
- Allocate services and support to the urban poor
- Develop life skills and livelihood insurance for urban poor
- Ensure legal compensation to the urban poor in the event of fire eviction, floods, and waterlogging displacement.
- Develop an integrated, holistic and risk-free city plan of action, and include the urban poor and their living places as a part of equal happy city life.
- Allocate Social Safety-net program for the urban poor
-

Rashed Halder, General Secretary, Bangladesh Awami Bastohara League Central Committee discussed the problem that slum dwellers face. Urban people who live in Dhaka city by paying the monthly rent are mainly regarded as homeless. According to Rajuk Plan, homeless people don't need to have a 2,200 sq. flat, because they can't even ensure their food. The landless and victims of disasters are often overlooked and there should be initiatives directed towards them. Work has to be done to ensure the rights of the poor. City planning should focus on these deprived populations. Mr. Haldar proposed that he has plans to make a 450 sq. ft. flat for the urban poor if the Bangladesh Government doesn't take any Initiative.



Rashed Halder, panelist of the session giving his speech

Ms. Kulsum Begum a slum dweller of city colony of Gaptoli, shared her life story, beginning with how she spent her childhood in Agargaon slum, where this conference building has now developed. This area was famous for Beltola slum and there was a big Bel tree in the area but now this area seems unrecognizable to her due to development. She went on to mention how taking a loan from an NGO has helped her change her fate. Moreover she informed that until now no Government has talked about the development of the slum dwellers' residence. Ms. Begum stated that she and the other slum dwellers don't have anything to do in this case, because they don't have any power. They don't have any type of health or electricity in the slum. The economic situation of Bangladesh is not stable so they don't get any types of facilities in Bangladesh. She proposed that all planning and policies should be implemented with slum dwellers in mind.

Discussion

One of the participants mentioned that housing for the poor is already included in the Government policy. This policy requires government, NGO and local poor partnership. For example, once a poor individual takes a housing loan, they can repay the loan by giving the money in installments, or they can repay the money in partnership. The partnership will allow them to pay half and the rest will be paid by the government. This can work in two ways: (i) loan money can be used to set up a small business in their house, for example a tea stall in the locality, or a small business run by the wider community; or (ii) the profits can be saved for the future or for children's education. The Government taking some responsibility eases the pressure on the poor.

A suggestion came from an architect participating in the session, who mentioned that the problem is in the root of policy. The policies should be implemented "for the people and by the people".

A participant suggested that, when talking about the slum population, man-made disasters are not mentioned. In most cases, we have seen that the best way to remove the slum dwellers is to create a man-made disaster (fire). She suggested that the Anti-eviction bill has to pass. Bangladesh has a Master plan for Dhaka for 2035 but it doesn't include or mention the poor. Identifying the poor people is currently a tedious job, so she mentioned exploring alternative processes to identify and enlist poor people.

Khandakar Rebaka Sun- Yet, Executive Director, Coalition for the Urban Poor (CUP), discussed urban resilience in terms of climate change. Slow-onset effects of climate change such as droughts are displacing a thousand households to the city in search of work. This is mainly a result of unplanned urbanization by the Government. We can't expect development without counting everyone. In the slum, two types of policy are mainly seen: one is government policy and the other is private policy. There are no social facilities for poor people. The Government should acknowledge the poor and pay for their loss and damage. The housing sector in slum areas needs development, and both private sector investment and the development sector can explore housing finance, and micro-credit facilities can also be initiated in this sector as it has potential.

Key Recommendations:

- Develop an integrated, holistic and risk-free city plan of action, and include the urban poor and their living places as a part of equal happy city life.
- Vertical housing for the urban poor as an alternative to horizontal slum expansion to better utilize space
- Permanent residences need to be ensured with complete facilities.
- Government facilities and social facilities for slum dwellers must be ensured.
- Including the urban poor in the 8th Five Year Plan as well as in the Delta Plan.
- The Anti-Eviction law should be passed.
- Slum dwellers should be included in the Master Plan.
- Slum-dwellers should be trained to enhance their skills for getting better employment.
- Business and financial investment should be made in the housing sector by both developers and private sector
- Micro-credit facilities can also be initiated in this sector for low income group housing.
- Government's all social safety-net programs should be allocated for the urban poor.



Panelist discussion in the second parallel session

6.4 Parallel Session PSA3: Youth and Climate Change: Innovative Solutions for a Clean Environment

Host/Co-sponsor: ICCAD

Welcome Speech: **Sarder Shafiqul Alam**, Coordinator, Urban Climate Change Programme, ICCAD

Presenters: **Tahsin Rahman**, Student, Independent University Bangladesh

Koushik Chakraborty, Student, Bangabandhu Sheikh Mujibur Rahman Agricultural University

Moderator: **Jennifer Khadim**, Coordinator, Youth Programme, ICCAD

Concluding Remarks: **Dr. Saleemul Huq**, Director, ICCAD

Sarder Shafiqul Alam, Coordinator, Urban Climate Change Programme, ICCAD welcomed the participants to the session. He addressed the importance of imagination. Youth are the innovators of tomorrow; their ideas and imagination can pave initiatives to revolutionize climate science. The Innovation into Action initiative will help make our environment eco-friendlier. The session was aimed to promote young leaders and innovators, giving them a platform to share their ideas with stakeholders and policymakers.

Jennifer Khadim, Coordinator, Youth Programme, ICCAD, acting as the Moderator for the session articulated the importance of youth in the fight against climate change. Bangladesh is a disaster-prone country. Every year the country faces different types of disasters, yet it is leading by example on how to adapt to this adversity. This conference provides an opportunity for researchers to showcase their contribution to innovative research. In March 2019, Independent University of Bangladesh (IUB) had a competition known as Green Genius. In this competition, there were participants from different universities and schools. The main concept behind this competition was that youth have to think about the environment and generate innovative solutions to address climate change. This competition allowed IUB to identify several ingenious projects and ideas. Two of the winners from the competition shared their project ideas at this session.

Mr. Kawshik Chakrobory, a student from Bangabandhu Sheikh Mujibur Rahman Agricultural University presented on "Low-Cost Microbial Effluent Treatment Plant". He talked about the genesis of the idea. In Bangladesh, only 17 percent of wastewater is treated. This wastewater is contaminating fish and crops with hazardous chemicals and heavy metals from different pollutants in local water in open water sources. If we just look around the rivers of Dhaka city we can see that the water is highly polluted. Not only in Dhaka, but throughout Bangladesh water pollution is leading to loss of aquatic biodiversity. Industry operators have ignored the treatment of their effluents for a long time, as it is an economically tedious job. This is why simplified low-cost infrastructure is an ideal solution in effluent treatment technology.

Mr. Chakraborty designed a low-cost treatment plant that can be made in Bangladesh, focusing on the microbial breakdown of effluents. Currently, Bangladesh is focusing on a chemical treatment plant. One of the negatives of chemical treatment is that residual chemicals in the treated water can be an irritant. Microbial breakdown is a scientifically sound way to treat wastewater. Using the microbial treatment will also contribute to the efforts the Bangladesh Government is making for SDG goal 6 and goal 13.

The microbial plant plan by Mr. Chakraborty is a low-cost and minimalistic solution; the features of the plant include screening with parallel bars, rods or wires, followed by an equalization tank with a simple mechanical propeller.



Group photo of the panelists of youth session

A sediment tank is also useful in this plant after the waste is transferred into a microbial tank, which has substrates for microbial growth. In the end, there is an aeration unit consisting of concrete steps like a staircase, where the water will fall in the system and will take up oxygen from the surrounding air.

One of the benefits of a microbial treatment plant is environmental. It has very limited waste compared to a chemical water management plant. Also, a microbial plant helps ensure aquatic biodiversity revival while preventing contamination of soil with heavy metals.

Tahsin Rahman, Student at Independent University Bangladesh presented on the "Cigarette Filter Recycling" concept. His idea started with a dream to work in the sustainable development sector. He explained the environmental footprints of the cigarette filter and how it adds to climate change by building up waste in the system. Cigarette butts inhibit soil fertility and hamper plant growth. Similar to plastic recycling, cigarette filter recycling will help to mitigate the effects of climate change, which ensures urban resilience.

The three steps needed for recycling starts from the collection of the cigarette filter. This helps in two ways as the raw material was free of cost, and they initially set up an assigned dustbin to get the materials on their University campus. The next part is cleaning, where they take the filters out of the smoking paper and they shred the papers. After cleaning, they process the material into their lab with additional substances (non-toxic and re-usable material), removing the heavy metals. Once the material dries and hardens, many things can be produced from the material.

Later on, Mr. Rahman added that, "Our goal is to bring out the full potential of everything holistically in hopes of a sustainable future". With research demonstrating the impacts that cigarette butts have on the environment, exploring an alternative way to reuse the waste is a way forward.

Discussion

A participant asked a question to Mr. Rahman on how he is pitching his ideas to relevant stakeholders. With contaminated soil, water, and air impacting the quality of vegetables grown in Bangladesh, European buyers refuse to buy many of our produced goods. Have you shared your idea with the European buyers?

Mr. Rahman responded that these buyers are not much interested as of now, moreover, with the research being in the initial stages, further research needs to be conducted to see the efficiency of this system. There are plans to talk to with the leather, pharmaceutical and textile industry going forward when the research has more footing.

Another participant suggested having this information about climate change and global warming accessible on a website. Moreover, he suggested running an anti-pollution campaign on college and university campuses, as well as placing polythene dustbins all over Bangladesh.

Another participant mentioned that under the Information Act 2009, LGED has accessible information on its website, and though sometimes some information is not accessible or available, it can be collected by approaching the government offices.

A consultant from JICA asked Mr. Chakraborty if the Low-Cost Microbial Effluent Treatment Plant can produce drinking water during a flood and will the plant work in the saline water. Also, whether the wastewater can be reused by the plant.

Mr. Chakraborty responded saying that maybe they can use a probiotic to use the wastewater.

Dr. Saleemul Huq, Director at ICCCAD, concluded the session, highlighting the importance of youth and how they are our future asset. Young people have more potential than the old so this is a precious asset. He compared youth

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with multi-billion-dollar assets. There are almost 200 universities in Bangladesh, and these universities have thousands of youth graduating each year, it's very important to ensure that these assets are coming out with entrepreneurial skills and a creative mindset when they are graduating. Guidance is the key to ensure we have an enthusiastic group of youths who will be future leaders. In the near future, climate change will increase. It is both a global problem and an opportunity. Dr. Huq stated that if we can create solutions for this problem and make a model, then the knowledge would be beneficial for us as well as for developed countries such as the USA and the UK. In the end, climate change solutions for adaptation is an arena in which Bangladesh can take the lead.

Key Recommendations:

- Recycling waste is important, especially cigarette butts.
- A simplified low-cost infrastructure is needed to make effluent treatment affordable.
- A low-cost system focusing on microbial breakdown will be compliant to SDGs goals 6 and 13.
- Microbial breakdown of waste limits the use of chemicals and prevents chemical by-product generation.
- Exploring alternative reusable waste is the way forward.
- Running an anti-pollution campaign on college and university campuses, as well as placing polythene dustbins all over the cities.

6.5 Plenary Session 2: Poverty Mitigation Practices for Climate Migrants and Vulnerable Households at City Level

Host/Co-sponsor: GIZ

Chief Guest: Caren Blume, Deputy Head of Development Cooperation, German Embassy

Special Guest: Md. Tazkin Ahmed, Mayor, Satkhira Municipality, Satkhira

Keynote Speaker: Guntram Glasbrenner, Cluster Coordinator, Adaptation to Climate Change and Biodiversity, GIZ Bangladesh

Discussant: Mr. Nure Alam, Senior Assistant Chief, Ministry of Social Welfare (MoSW)

Mr. Md. Azmul Haque, Secretary, Khulna City Corporation

Abida Afrin, Social Service Officer, Department of Social Services (DSS), UCD -1, Khulna

MS. Khadija, Community Leader, Khulna City Cooperation (KCC)

Moderator: Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF)

The plenary session was moderated by Mostafa Quaium Khan, Advisor, BUF, he welcomed the guests and gave a briefing on how poverty distribution is changing in rural and urban areas due to the dynamic pressure induced by climate change.

The keynote presenter of the session, Guntram Glasbrenner, Cluster Coordinator, Adaptation to Climate Change and Biodiversity, GIZ Bangladesh, gave a briefing on the types of projects undertaken by GIZ in Bangladesh. With the objective of improving the living conditions of climate migrants, GIZ, along with funding from the European Union (EU), has been working on the “Urban Management of Migration and Livelihood (UMML)/ Urban Management of Internal Migration due to Climate Change (UMIMCC)” project. UMIMCC is being implemented in five partner cities - Barisal, Satkhira, Rajshahi, Sirajganj and Khulna - for the project duration from 2018 to 2022. Through interventions in the financial sector, the project enables access to micro-credit loans for rearing cattle, and



Guntram Glasbrenner giving his keynote at the second plenary session

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poverty mitigation practices by providing training based on local needs. Sixty percent of migrants and vulnerable people in the project area will receive financial services from microfinance institutes to graduate from poverty and indebtedness.

The innovative approach of UMIMCC includes an information hub and a social hub. In synergy with the project initiatives, the information hubs installed in the project areas will provide information about the labor market and job opportunities. Social labs under the project will assist with finding partners and service providers; community, local government, civil society, NGOs, donors, and Department of Social Services (DSS) will sustain over the project period. Access to finance and business opportunities will be included in the activities.

The beneficiary group leader, Ms. Khadija, Khulna City Corporation (CDC Town federation Leader) shared how her family had to leave Barisal after their land was lost due to a disaster. They migrated to Khulna after the incident. As a climate migrant, living in a slum with limited facilities, she faced many challenges. Drawing from her personal experience she emphasized the importance of providing support to the migrant communities. Providing skill development training, job opportunities, and financial support can help improve the quality of life for these people. NGOs and communities should collaboratively work together for this improvement while avoiding beneficiary overlap. There are 278 community groups in Khulna. Ms. Khadija suggested that assistance should be ensured to all of them equitably, adding that the DSS can help in this regard. People should be made aware of the services and benefits of DSS through the information hubs.

Abeda Afrin, Social Service Officer, UCD-1, Department of Social Services (DSS) Khulna, explained the social safety nets program and the scope of DSS activities in benefitting vulnerable urban populations. Ms. Afrin mentioned that there is a widow allowance as well as allowance for the husband deserted women in the rural regions, which should be introduced in the urban areas. Also, the Rural Maintenance Committee (RMC) credit program, old age allowance, allowance for persons with disabilities, allowance for transgender individuals, allowance for widows and women deserted by their husbands, a stipend for students with disabilities and gypsies, child protection (*Sorkari Sisu Paribar*), and other social protection services should be given higher priority in urban areas. There should also be a provision of capital through microcredit, which is already being carried out under the Social Safety Net Program. Ms. Afrin mentioned that establishment of UMML/UMIMCC Information Hubs through collaborative approach with DSS has allowed for its smoother service provision online.



Audience and panelists during the second plenary session

Mr. Md. Azmul Haque, Secretary, Khulna City Corporation (KCC), discussed about the importance of having a proper coordination mechanism which was already at work to make Khulna a “Smart and Green City”. Furthermore, it is important to ensure equitable water, sanitation and environmentally safe solid waste management services. KCC is a coastal area with people leaving the area due to sea level rise, cyclones, and scarcity of water along with the city’s other challenges. A big challenge being faced by Khulna city is the incoming climate displaced population, moving to the city from the coastal belt of the country. These people are moving into slums, creating an urgent need for slum development. Moreover, there is a lack of information in the KCC database. Effective coordination among the donors and NGOs is necessary.

Tazkin Ahmed, Mayor of Shatkhira Municipality, serving as special guest, explained that the European Union and German Government are doing projects to support vulnerable people and climate migrants to improve their living conditions. Satkhira is one of the most disaster-prone areas of the country, facing major problems such as cyclones, salinity, and waterlogging. The Mayor of Satkhira explained that recently GOB and GIZ/KfW came forward with appropriate mitigation measures to address these issues. He also stated that the project is implementing very transparently and applying participatory approaches.

The chief guest of the session, Caren Blume, Deputy Head of Development Cooperation, German Embassy, stated, “Maybe climate change is not the only reason to migrate, but this adds extra stress. That is why we look into hotspots, but we do not differentiate who are climate migrants and who are not”. Development of regular infrastructure is not enough to address the negative impacts of climate migrants, so GIZ and KfW are investing in climate resilient infrastructures. Furthermore, she added that there needs to be proper technical support, especially in capacity building, proper development of a data management system, and also effective planning strategies.

Nur E Alam, Senior Assistant Additional Secretary, Ministry of Social Welfare emphasized that there have been no proper steps for poverty reduction due to the people living in slums being poor. Amongst the urban poor, the old age allowance is available for only about 6 percent of people, and the widowed and distressed women allowance is only a meagre 1.68 percent. He discussed the future plan of urban areas should include training-related activities, digital cash transfer systems and expansion of social security benefits, especially for the urban poor. The provision of information hubs and social hubs is important for taking inputs from stakeholders and for providing them with at least the basic necessary information.

Discussion:

M Nazrul Islam, Sirajganj Municipality Mayor added that the eastern part of his municipality had experienced river erosion, which forced people to migrate to other areas due to the loss of their livelihoods and houses. Also, the drainage and water system of the municipality are in a highly vulnerable state right now.

One of the participants during the discussion added that Barisal faces issues of river erosion, waterlogging and provision of safe water supply to the climate migrants. There are 6 lakh people living in Barisal at the moment and the requirement of water is 100 liters per person. So, statistically, Barisal municipality’s population needs a supply 6 crore liter of clean water, but only 2.5 crore liters is available at the moment.

A participant questioned whether there was any monitoring and evaluation method for distinguishing between the people living in poverty – whether original residents of the slums and climate migrants were treated the same or not. In response to this, GIZ claimed that hotspots were identified, their vulnerabilities were assessed and both groups of the urban poor were treated the same.

Key Recommendations

- Information hubs should be used to aware people of the services and benefits of DSS.
- Capacity Building on proper technical support and development of a data management system requires an effective planning strategy.
- Synergy between NGOs, private organizations and research institutes is needed to ensure innovative and effective methods for development.
- Effective coordination among the donors and NGOs is necessary.
- Climate migrants and vulnerable communities need to be distinguished.
- Skill-based training and financing services should be ensured for slum dwellers.
- NGOs and communities should collaboratively work together while avoiding beneficiary overlap.
- There is a lack of community water services which needs immediate attention.

6.6 Parallel Session PSB1: Story of Urban Street Children in Dhaka City

Host/Co-sponsor: ICCCAD

Speaker: **Nine street children**, one girl, two boys shared their life story, and five girls presented a song depicting the struggles of living on the street

Discussant: **Mr. Rezaul Karim Khokon**, Chairman, Smiling Rainbow Foundation Bangladesh
Mohammad Aftabuzzaman, Executive Director, APON Foundation
Quamrun Nahar, Programme Officer, Education and Development, Caritas, Bangladesh

Session Chair: **Dr. Saleemul Huq**, Director, ICCCAD, IUB

Moderator: **Sarder Shafiqul Alam**, Coordinator of Urban Climate Change Programme, ICCCAD, IUB

Sarder Shafiqul Alam, Coordinator of Urban Climate Change Programme, ICCCAD, acting as the moderator for the session welcomed everyone to the session, especially the children who came to the conference to share their life stories. Mr. Alam mentioned that people living in Dhaka city are from different socio-economic backgrounds. This means every individual has a different story to tell. A big proportion of the urban population consists of children living on the streets. Unfortunately, this group is deprived of basic human rights. They face many issues and obstacles and they have their own stories; we often overlook how they tackle their daily problems. Despite their situation, they have dreams which they should be entitled to realize. These children, who grow up in the streets, develop resilience without being formally taught. Mr. Alam explained that this session was designed to make their stories heard. As practitioners working for urban resilience, these children's aspirations and challenges should be heard, to help them fulfill their hopes and dreams.



Sarder Shafiqul Alam moderating the parallel session

Runa Laila lives in a Slum at Rayerbazar. She is currently enrolled in her first year of college. She shared her struggles to attend school. Living in the slum has been difficult, but still she overcame her obstacles to educate herself. Runa Laila is one of the students from the first batch at the APON foundation. She went on to share how the APON Foundation has helped her toward the path of education. She discussed the days when she used to study on a floor mat, and how she enjoyed her first days learning from the teachers there. Receiving a basic education, she joined an NGO school with help from the foundation's teachers and continued up to class eight. She claimed that she feels immensely lucky that with her passion and hard work, she has managed to complete her Junior School Certificate (JSC) exam and Secondary School Certificate (SSC) exam. She strongly believes that during the process of learning and educating herself, she managed to not end up married like many other girls living back in her village.

Due to socio-economic difficulties, Laila and her family had migrated from her home district in Netrokona to the capital city she referred to as 'Jadur Shohor' Dhaka. Being an adult girl living in a slum is not easy and she has faced problems such as eve-teasing. She is concerned about the fact that people living in the surrounding areas do not protest about these social problems.



Opinion sharing from the participants during the parallel session

Runa Laila mentioned that she has come a long way, and is now a college student. She has big dreams of one day being able to study in a university, and becoming a journalist to be vocal on social issues. She conveyed a message for people like her that being born into poverty is no one's fault but dying in poverty is. She reiterated the need for education as a means to break free from poverty.

Rahat, a young boy, currently studying at APON pathshala, shared his story. After migrating from Barisal, he has been living in Paschim Rajabazar, with his father and mother. His father is a cook, and his mother works in an office. At the foundation, he studies basic subjects such as Bangla, English, and Mathematics. He aspires to become a doctor and shared a beautiful motivational poem for children just like him.

Md. Rabbi Sarder, a student of inter-first-year also shared his life story. His home district is in Barisal. When he was young, his father abandoned his mother with four other daughters. Left with no choice, his mother moved to Dhaka city with the five children. His mother worked as a maid, moving from household to household to support the family. Rabbi passed his class five from an NGO school. After that, his mother forced him to discontinue his education and start working to support the family. Hence, he joined an office where he works night shifts for only BDT 3500 per month. However, he wanted to study, not work. With the dream of studying further, he got admission to APON's free coaching in 2016. There, from the teachers, he learned about how to study differently, how to gain knowledge, how to see life in a better way. With the inspiration and experiences gained at the APON foundation, he now dreams of becoming a teacher who makes a difference in people's lives.

Five girls living on the streets of Dhaka shared their stories through the medium of singing. These girls are part of Caritas's Night Shelter project. With their singing, they expressed their struggles of being children with no parents to guide them, struggles for getting work to earn money for buying food. Living on the roads, spending nights sleeping on the streets of the city, these girls have nowhere to go. With no set work, or family to look after them, at times they starve and go about the day on empty stomach. The lyrics of their songs highlighted the mass social stigma, of street children being looked down upon, for they don't have a birth certificate. Yet their song also has hope, for one day their dreams will come true, and they too will have a better life.

Mr. Rezaul Karim Khokon, Chairman, Smiling Rainbow Foundation Bangladesh, highlighted the work and progress by his organization towards children's education since the year 2000. The children affiliated with this foundation are mainly girls from sweeper, fisherman or cobbler family backgrounds. The Foundation started with 5 pre-primary schools at the initial stage to ensure girls get into the regular/ formal education process. Mr. Khokon mentioned that they have scaled their facility and now the foundation also provides a means of shelter while providing education.

Mr. Khokon also requested that the term '*pothobashi shishu*' (which translates to street resident children) be used rather than the term '*pothoshishu*' (which translates to street children) be used. Also, he highlighted that basic education is these children's basic rights, and they need access to education to lead a better life. Mr. Khokon strongly mentioned the need for girls' education. He mentioned that a proper education system has to be developed to mentor at least one child to be a leader, who can then lead a few others, bringing change to society. Also, Mr. Khokon pointed out that these underprivileged children should receive some benefits from taxes paid to the government.



Street Children are singing to share their stories during the parallel session

Mohammad Aftabuzzaman, Executive Director, APON Foundation, talked about how his organization is working to educate lost, abandoned, or deprived children.–As we are graduating towards middle-income country status from least developed country status, no group should be left behind in the development process. Hence, looking into the overall scenario, we need to address the issues that our children face in their daily lives on the street. Drawing from his experience, Mr. Aftabuzzaman explained that the number of street children is increasing on the streets of Dhaka. Social issues, family troubles, environmental hazards, and other issues are contributing to more children ending up on the streets. There is currently no research on climate-vulnerable children, or street children vulnerable to different social issues or climate change. Policymakers and all other decision-makers should consider this issue, and research should be done to include children's rights in the national planning process.

Mr. Aftabuzzaman strongly feels that a separate department for children needs should be established to take effective actions regarding the different issues faced by underprivileged children.

Quamrun Nahar, Programme Officer, Education and Development, CARITAS Bangladesh started off sharing the experience of CARITAS, working for about 15 years on different urban issues, including urban community management, disaster management, and children living on the streets. Ms. Nahar mentioned that she strongly feels more work needs to be done to help children fulfill their dreams. It is important to highlight information from children's success stories to encourage and guide other street children.

Ms. Nahar highlighted the shortcomings of the birth certification process, where street children lack certificates. This prevents them from sitting for any board exam. She also went on to highlight the lack of administrative structure or long term planning, which is needed to modify this system.

She went on to suggest that strategies need to be formulated to ensure birth certificates and to prevent child labor. No single institution can work alone, and the government cannot resolve all the problems. Hence, we all need to work together collaboratively with the government. Ms. Nahar also re-emphasized the need to have a specific children's department where complaints can be placed or work can be done to ensure a safe environment for children living on the streets.

Discussion

A participant from the session asked how the growing numbers of street children can be controlled. What possible method can be used to control this?

One participant responded that with education and necessary skills training programmes, such underprivileged children can explore different job options. She stressed the point that, nowadays, parents are more aware and concerned about their children's education. Ironically, in many cases, the children do not enjoy their studies anymore and school drop-out has increased. So different interventions should emphasize making children more enthusiastic about their studies, and they should be encouraged to continue dreaming big. Different organizations work in silos, but everyone needs to work together to connect these missing dots. Investing in different components for the growth of children should follow a coordinated process. The state should take the majority of the responsibility to formulate the system where raising children properly is possible as, after all, these street children are citizens of Bangladesh.

Dr. Saleemul Huq, Director, ICCCAD, acting as the session chair shared his concluding remarks. Dr. Huq mentioned that Bangladesh Planning Commission is on the process of making the 8th Five-Year-Plan and the Perspective Plan (2041). So, the government is working on longer planning activities and also how to achieve our SDGs. But looking beyond the government plans, one single investment that can help solve the problems of tomorrow is through investing in children, especially young children, to educate them with knowledge and train them with better practical skills. The purpose is to enable them to use their knowledge to live their lives and to be the entrepreneurs of tomorrow.

Dr. Huq added that, being a climate-vulnerable country, we all are facing the impacts of climate change and in 30-60 years, the consequences would be more prominent. Young girls should be able to claim themselves as climate champions in the future if they are equipped with proper education and skills development training. To be a climate-resilient country, there is no other option but to properly educate the upcoming generations. Climate change is long-term, and we need to plan accordingly to fight it and any other uncertainties brought along with its negative impacts. Dr. Huq suggested that having a jamboree with the street children on climate change topics could be a first step to raise awareness of the need to become a resilient individual.

Key Recommendation:

- Street children need to have access to basic and better education so that they can take the lead to create a better world.
- Education for girls is of the utmost importance.
- Education has to be made enjoyable to prevent school dropouts.
- Children should be equipped with practical skills and knowledge along with education to enable them to use that knowledge to live their lives and be entrepreneurs.
- Research on climate vulnerable street children needs to be conducted.
- Young girls should be able to claim themselves as climate champions in the future if they are equipped with proper education and skills development training.
- Having a jamboree with street children on climate change topic could be the first step to raise awareness on the need to become a resilient individual.
- A government department working especially for and with underprivileged street children should be considered.

6.7 Parallel Session PSB2: Promotion of Urban Rainwater Harvesting and Recharge

Host/Co-sponsor: WaterAid

Session Chair: Dr. Kazi Matin Ahmed, Professor, Department of Geology, University of Dhaka

Panelists: Dr. Fahmida Khanom, Joint Secretary and Director (Natural Resource Management and Research), Department of Environment, Ministry of Environment

Abdullah Al-Muyeed, PhD, Head of Policy and Advocacy, WaterAid Bangladesh

Presenters: Dr. Tanvir Ahmed, Professor, Department of Civil Engineering, Bangladesh University of Engineering and Technology (BUET)

A.H.M. Khalequr Rahman, Executive Engineer, Research and Development Division Department of Public Health Engineering, Government of the People's Republic of Bangladesh

Mohammad Golam MuktaDir, Technical Adviser-WASH, WaterAid Bangladesh

In his presentation, Dr. Tanvir Ahmed, Professor, Department of Civil Engineering, Bangladesh University of Engineering and Technology (BUET), talked about rainwater harvesting, emphasizing its prospects and challenges in Dhaka city. Rainwater storage techniques vary based on whether the receiving area is natural or built up. He emphasized the importance of treating rainwater before it goes into waterbodies or recharges underground aquifers. Unplanned urbanization, excessive ground water extraction, inadequate sanitation systems and poor drainage infrastructures are responsible for the pollution of rivers and waterlogging in urban areas. Ahmed highlighted that nature-based solutions and landscape-based adaptation could be ways to sustainably store rainwater. Some effective methods of water usage in urban structures include water efficient buildings, harvesting and reuse of rainwater, natural wastewater treatment plant and reuse of grey wastewater. If we can use and reuse rainwater, it will put less pressure on groundwater and the municipal water supply system. Sustainable rainwater harvesting techniques provide clean and even drinkable water in some parts of Bangladesh.



Dr. Tanvir Ahmed giving his presentation on rainwater harvesting at the parallel session

The benefits of rainwater harvesting were also highlighted, including that it is low cost, easy to use, has no delivery cost or labor charge and it can serve as an essential reserve in times of emergency. Rainwater can also be used by industries. Countries such as Canada, India, Germany, China and Thailand were presented as examples of places that have successfully tackled water shortage issues through rainwater harvesting methods. The design and effective use of rainwater harvesting systems and storage tanks were explained as well. It is necessary to maintain the quality of the water to attract more people and break the stigma against adopting this technique. However, policy regulations and support from the private sector is required for mainstreaming.

The presentation of Mohammad Golam Muktedir, Technical Adviser-WASH, WaterAid Bangladesh, was focused on the sources of water in Bangladesh. He pointed out that, Dhaka WASA is still supplying water with a production capacity of 2550 MLD, of which, around 78% of water supply comes from groundwater sources through 750 deep tube wells. The rest of the 22% comes from water treatment plants from the rivers. Only a limited number of areas such as the coastal and hilly areas use rainwater to fill the need of usable water. According to Golam, water stress in Bangladesh is caused mainly due to unparalleled social and economic growth, pollution of surface water resources, dependency on ground water resulting in ground water depletion (2-3 meter per year), transboundary issues, arsenic contamination of ground water, salinity intrusion in the coastal region of the country, and climate change impacts.



Mohammad Golam Muktedir giving his presentation on source of water in Bangladesh at the parallel session

Sea level rise will increase the scale of salinity intrusion, and will affect the floodplains, which will affect the coastal areas the most. A one metre rise in sea level will inundate 29,846 sq.km. Of coastal areas and could potentially make 14.8 million people landless, and thousands of people could become environmental refugees. In Dhaka city, the annual amount of rainwater that could be used is 50-60 percent. If stored properly, this can be used for various purposes.

With the government's help, WaterAid is working on capacity building and networking within the rainwater researchers, institutionalizing the Rainwater forum and providing a platform for professionals and technological improvements. This has made periodic maintenance easier. However, some challenges exist, including high Initial cost, lack of knowledge and awareness in this sector, lack of sufficient technical personnel, and dependency on governmental and NGO initiatives.

MAR is a technology for recharging and further use of water and stands for 'Managed Aquifer Recharge'. Its concept was presented by A.H.M. Khalequr Rahman, Executive Engineer, Research and Development Division Department of Public Health Engineering, Government of the People's Republic of Bangladesh. It is an intentional recharge of an aquifer under controlled conditions to store water in the aquifers. The presenter pointed out the benefits of MAR which include the increase in water availability by generating water supplies through rainwater instead of wasting it. At the same time, it can improve water quality through natural processes and prevent salt-water intrusion to some extent. While talking about why MAR could be an alternative solution to water scarcity, the presenter mentioned how water in different parts of Bangladesh is overused or unusable due to arsenic in floodplains, salinity intrusion in the coastal regions, and difficult geological structures in the hill tracts. They chose 99 sites to set up MAR mainly in Satkhira, Khulna, and Bagerhat, using financial support from the Dutch government. Regardless of everything, there is an absence of regulation and policy in implementation and operation of MAR which should be addressed. Also, one of the key challenges lies in improving the design of MAR.

In the open discussion phase of this session, a question was raised about the viability of storing rainwater in the groundwater reservoirs. One of the presenters answered that the key issue was that rainwater must be treated to potable water in order to avoid any kind of contamination. Otherwise, it can be stored for other household usages such as toilet flushing and car washing.

Another question was raised regarding rainwater storage in urban areas, especially in apartments. It was explained that this is not part of the research yet but controlling the demand of rainwater is necessary and it requires enhanced techniques.

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One of the participants inquired about MAR pilot projects for Barisal city corporation, and if there is a chance of toxic contamination of rainwater through this system. The presenter explained that the MAR system is still under consideration regarding policy and regulatory work for mainstreaming. At the moment, there is no plan to implement it in Barisal city. The next steps regarding MAR operation and maintenance through regular systems is also under consideration. There is not too much to do in terms of making it functional but the team is trying to scale it up for the coastal areas.

Dr. Fahmida Khanom, Joint Secretary and Director (Natural Resource Management and Research), Department of Environment, Ministry of Environment, mentioned that the use of technology depends on people's attitude. At the same time, there is an issue regarding availability of space to set up a new design and understand the need for an alternative option. Theoretically, 94% of rainwater could be collected from household roof runoffs and could be later used for domestic purposes. However, government incentives for building water reservoirs will be needed for mainstreaming the technique amongst the general population. Schools, hospitals and industries could be brought under legal frameworks to use this alternative process. The lack of awareness is the major factor holding back rainwater harvesting techniques, and this would require strong and successful examples for convincing people.

Abdullah Al-Muyeed, PhD, Head of Policy and Advocacy, WaterAid Bangladesh, stated that understanding and taking initiatives for tackling the issue of water crisis should come from the people themselves. They should not always rely on the government for initiatives.

The session chair, Dr. Kazi Matin Ahmed, Professor, Department of Geology, University of Dhaka, concluded the session with a note on mixing different technologies for a better solution, for example combining MAR with another system. He also pointed out that regulations on MAR are coming. Also, it is important to note that, although it is not possible to utilize 100% of the rainwater, we should still at least make an attempt to reduce some of the burden of drinking water issues.



Panelists' discussion during the parallel session

Key Recommendations:

- Nature-based solutions and landscape-based adaptation could be ways to sustainably store rainwater.
- The lack of awareness is the major factor holding back rainwater harvesting techniques, and this would require strong and successful examples for convincing people.
- It is necessary to maintain the quality of the water to attract more people and break the stigma against adopting this technique. However, policy regulations and support from the private sector is required for mainstreaming this old technique.
- Some effective methods of water usage in urban structures include water efficient buildings, harvesting and reuse of rainwater, natural wastewater treatment plants and reuse of grey wastewater.
- MAR could be an alternative solution to water scarcity, although design improvements are still required.
- Schools, hospitals and industries could be brought under legal frameworks to use this alternative process.
- Different technologies could be mixed for a better solution (for example, MAR with some other technique).
- Understanding and taking initiatives for tackling the issue of water crisis should come from the people themselves rather than depending on the government.

6.8 Parallel Session PSC1: Role of the Municipalities in Bangladesh and Scope of Municipal Association of Bangladesh (MAB) in Achieving Sustainable Development Goals (SDGs)

Host/Co-sponsor: Municipal Association of Bangladesh (MAB)

Welcome Speech: **Mr. Md Rafiqul Islam**, Municipal Association of Bangladesh & Mayor, Shariatpur, Municipality

Keynote Speaker: **Mr. Md. Khalid Hossain Yead**, Mayor, Madaripur Municipality and Joint Secretary General, MAB

Discussants: **Mr. Md Nurullah**, Former Chief Engineer, Dhaka South City Cooperation (DSCC)
Mr. Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF)
Dr. Saleemul Huq, Director, ICCCAD

Dr. Tofail Ahmed, Vice-Chancellor, Britannia University, Comilla

Chief Guest: **Adv. Azmat Ullah Khan**, Founder President and Advisor of MAB

Session Chair: **Mr. Dewan Kamal Ahmed**, President MAB & Mayor, Nilphamari Municipality

Moderator: **Gazi Kamrul Huda Selim**, Executive Member of MAB, Mayor of Manikgonj Municipality

Mr. Gazi Kamrul Huda Selim, Executive Member of MAB and Mayor of Manikgonj Municipality, acting as the moderator to the session, briefed on the session. He explained that the session aimed to understand the effectiveness of governance throughout municipalities, and whether the training programs facilitated by MAB for their corresponding mayors were working or not. The session also aimed to understanding the implications of SDG-6 (Clean Water and Sanitation), SDG-11 (Sustainable Cities) and SDG-13 (Climate Action) for the municipalities' initiatives.

In his keynote presentation, Mr. Khalid Hossain Yead, Mayor, Madaripur Municipality and Joint Secretary General, MAB discussed the existing situation of municipalities and the issues currently being faced by their association. MAB has been working with mayors with incorporating the SDGs in the development of municipalities along with the help of international and national NGOs. At the moment, 35 percent of Bangladesh's population lives in urban areas and estimations show this will increase to around 50 percent by 2035.



Mr. Gazi Kamrul Huda Selim giving his keynote at the parallel session

Owing to the efforts of the mayors in incorporating the SDGs, more people are now receiving clean water and sanitation. Mr. Yead gave the example of Chittagong municipality where, around 60 percent of the people have access to clean toilets, due to the intervention by MAB with the mayor. In terms of fire and hazards, an increasing population means increased vulnerability to flood and fire. There have been local level interventions where people, not only municipality staff, play a part in mitigating fire hazards. A proper drainage network is being developed for tackling water-logging issues in different municipalities. Also, 115 waste management sites have been developed to take care of the increased waste generated by a larger population in the municipalities. Special programs for women's empowerment are arranged by MAB as well.

Mr. Yead mentioned lack of funds is a major barrier in trying to reduce poverty at the municipality level. The municipality receives only about 2 percent of the total holding tax revenue while the rest goes to the central government. Mr. Yead added that there should be policies that should allow municipalities to have greater access to the total land and income tax generated. He added that around 40 percent of the total share is necessary for the proper development of a municipality.

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Mr. Yead also mentioned that the Education and Health sectors of the municipalities need greater focus. The education sector (especially the quality of teachers) and the medical sector (mainly maternal health care and dialysis services) require higher priority than they are currently given. The master plan needs to address municipalities, with a greater focus on the water supply system to households and industries. Khalid then concluded his presentation by stating that improvements should be made regarding the budget, financial accessibility for local authorities, accountability, waste management systems, healthcare services, using professional planners, and inclusion of municipalities' developments in the master plan.

Mr. Md Nurullah, Former Chief Engineer, Dhaka South City Cooperation (DSCC), stated that a major obstruction in SDG implementation at municipality level is due to a lack of proper local action in strategic development plans. He also pointed out that the municipalities need greater autonomy, and the mayors of MAB should have more influence in the development of the Government's 5-Year-Plans.

Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF), added that retrofits should be made in rural areas to replicate facilities available in urban areas so that they can receive the same benefits as the urban population. He also said that improvement should be made on The Right to Information Act 2009 to ensure a free flow of information and people's right to information. All of these are necessary for improvements and developments to be sustainable.

Dr. Saleemul Huq, Director, ICCCAD said that improvements in planning by incorporating the SDGs are already being shown. He suggested that the members of MAB should work with students within the municipalities. Educating students about SDGs will help them get involved in making improvements in their municipalities' planning phases.

Dr. Tofail Ahmed, Vice-Chancellor, Britannia University, suggested that MAB should provide a platform for activities development by other organizations. While MAB can ensure accountability of this work. He said that most of the problems in Bangladesh arise due to fragmentation in development work resulting from a lack of bridging between different organizations (both government and non-government). Projects related to the development of a municipality should be closely monitored. Organizations implementing this work should be accountable to the local governments where they are working rather than the central government. Also, there should be local courts at union levels who should be the arbitrators for settling local disputes. This will be more effective since the problems will then be addressed while considering the local context. Mr. Ahmed then discussed tax sharing through the decentralization of the existing tax system as a potential solution to existing problems faced in development work.

Azmat Ullah Khan, Founder, and President, MAB, acting as the chief guest of the session discussed the importance of independence and autonomy for local governments in identifying issues in municipalities and solving them while keeping the local context in mind. He believed that this would help result in fruitful outcomes. He pointed out that although developed nations are primarily to blame for climate change, since it's a global issue, we have to act accordingly become resilient through sustainable development. At the moment, 328 municipalities are acting to address the issues related to the SDGs. He said that, it will be possible to encourage people to migrate to towns and municipalities, while parallelly achieving the stated SDGs, by creating adequate employment opportunities in those areas. Constantly piling responsibilities on the central government will only increase unnecessary pressure. Instead, a structure with federal and local governments can help solve problems based on local needs. There should be municipal police for the safety and security of individual municipalities.



Azmat Ullah Khan, Founder, and President, MAB giving his session speech as chief guest

One of the discussants mentioned that Melinda Gates Foundation has been working collaboratively with ICLIE for development work related to health, education and fecal sewage management in several municipalities. He emphasized the necessity of collaboration with the local government for achieving the SDGs.

The session chair, Dewan Kamal Ahmed, Mayor of Nilphamari Municipality, President MAB, said that MAB was established to have a united voice. He explained that development is not necessarily only financial but requires development in all other sectors, especially the education sector. He also suggested that MAB needs to work on its advocacy to achieve the goals of the central government.

Key Recommendations:

- The master plan needs to address municipalities, with a greater focus on the water supply system to households and industries.
- The health, education and water sectors need to be given more priority in the municipality master plan.
- A municipality should have better accountability of the government regarding waste management.
- Improvements should be made regarding the budget, financial accessibility for local authorities,
- Members of MAB should work with students to educate them about SDGs that will help them get involved in making better municipalities' planning.
- Necessity of collaboration with the local government for achieving the SDGs.
- MAB needs to work on its advocacy to achieve the goals of the central government.
- There should be policies which should allow municipalities to have greater access to the total land and income tax generated.
- Decentralization of taxes is a necessity to make sure that municipalities can become independent and autonomous to carry out their development through tax revenue within the municipality.
- Organizations should be accountable for their activities at the municipality level.
- MAB should be monitoring the development activities of the organization.
- Professional planners and other experts should work collaboratively with MAB and other organizations as per local action plans with their proper reflections on the master plan, strategic plan, and 5-year-plans.

6.9 Parallel Session PSC2: Out of the Box Session

Host/ Co-Sponsor Organization: ICCCAD

Presenter: **Sheppard Zvigadza**, Visiting Researcher, ICCCAD
Dr. Rumana Sultana, Assistant Professor, Center for Sustainable Development (CSD), University of Liberal Arts, Bangladesh (ULAB)
Karisma Amjad, PhD Fellow, Institute of Social Welfare and Research University of Dhaka, Bangladesh
Amir Hamza, Student at BRAC University, Dhaka, Bangladesh
Md.Mahbul Haque, CEO, Human Rights Alliance Bangladesh

Discussant: **S.M. Mehedi Ahsan**, Senior Urban Resilience Specialist, KfW
Dr. M. Shafiq-Ur_Rahman, Professor and chairman, Department of URP, JU

Session Chair: **Mostafa Quaium Khan**, Advisor, BUF

Mostafa Quaium Khan chairing the session explained that the Out of the Box session was aimed to bring new ideas and research to the conference. This will open up doors to think beyond, while encouraging young researchers and their ideas. He added that twenty interesting abstracts related to urban issues and climate change were submitted to the conference call for abstracts, of which five were selected to be presented in this session. The presentations were selected based on how they address the concerns of our daily lives in the urban environment.

Mr. Sheppard Zvigadza Visiting Researcher, ICCCAD, presented his research on Bangladesh Electric Vehicle (BEV), which was part of his master's thesis at IUB. His presentation focused on how BEV technology has diffused into Bangladesh. EV is not a new technology and has developed with evolutions in the machines as well as the batteries. There are about one billion cars on the road, and five million of them are EV.

Mr. Zvigadza used KII and FGD tools to look into the policy framework of BEV, which helped him identify the reason behind the popularity of the technology. BEV has the benefit of not having tax and registration requirements, making the technology almost free for all. Though EV are relatively cheaper than other vehicles, they were involved in a few accidents and were banned in 22 districts in Bangladesh. Moreover, EV does not have an engine, though they still qualify as motor vehicles. The problem with easy bikes is the lead acid battery used. Each easy bike has five battery so with 1.5 million Easy Bikes on the road in Bangladesh since 2002, there 7.5 million batteries per year, contributing to the problem of lead acid contamination. Mr. Zvigadza used Rajshahi as a case study, looking into the benefits and negatives of transitioning to the technology. He added that the by running on solar, each easy bike saves 2,216.98 ton of CO₂ emissions per year, which is a big step towards decarbonization. Learning from countries like China and Russia, policies for the accountability of the drivers and the technology have to be ensured. Adopting Mobile app tracking and a Driver Identification System, the EVs and drivers could be tracked. EV is a green revolution that needs to be tapped for enhancing the Bangladesh transport system.

Dr. Rumana Sultana, Assistant Professor, Center for Sustainable Development (CSD) ULAB, presented on the importance of urban green spaces. According to World Bank data released in 2016, more than 35 percent of the population is living in urban settings in Bangladesh. Ms. Sultana noted that previous studies on sustainability in Dhaka city reported that urban green space (UGS) is an essential element for the urban environment and has a



Mostafa Quaium Khan chairing the out of the box session

positive impact on inhabitants' quality of life. However, there is still a significant gap in understanding socially adjustable and sustainable urban planning. Her research, conducted under CSD, examined local peoples' perception of Cultural Ecosystem Services (CES) provided by UGS. The results are based on activities influenced by sociodemographic factors in the South Dhaka City.

The total area of Dhaka South City Corporation (DSCC) is 43.961 km² where there are 28 parks and 10 playgrounds. Zone 1 of DSCC was selected as study area for this research, and covers 11.504 km² including wards 15 to 21. The area was chosen for diversity in the urban ecosystem (i.e. Dhanmondi lake, Ramna park) and divergence in sociodemographic groups in terms of age, sex and literacy rates. Data collection included 401 structured interviews and questionnaires between March and December. Descriptive and inferential statistics were applied to analyze the data collected.

The study by Ms. Sultana revealed that people from different family backgrounds have different ways of using these spaces. On being asked why green spaces are important most of the study participants mentioned that they provide spaces for recreation, leisure and open space, and they are really important for passive recreation such as walking and nature observation. Moreover, youth respondents are more often use these spaces for games and sports. An issue identified by the female respondents was that the lack of security limits their utilization of green space. On the other hand, male respondents consider crowdedness as their main limiting factor.

Ms. Karisma Amjad, PhD Fellow, Institute of Social Welfare and Research, University of Dhaka, Bangladesh, presented on her PhD paper focusing on the lives of elderly female slum dwellers, who are affected by climate induced migration. Women are vulnerable to climate change and displacement. A majority of elderly people suffer from basic problems, such as insufficient income, poor employment opportunities, malnutrition, chronic diseases, absence of proper health care facilities and lack of adequate family support. Elderly women moving to the slums when migrating to the cities suffer from health problems. The study objective examined the reasons for migration to urban settlements, what migrants' basic needs are based on their livelihoods, how to ensure planned migration and how to provide services according to the expected demands of these women.

The study was conducted in Jilpar Slum of Shahjadpur and Khalpar slum in Khlbaritake. There was a total of 50 women age 60 years and above interviewed, and using statistical techniques the data were analyzed. 68 percent of the respondents were widows. 30 percent of the respondents migrated because of cyclones and a lack of agricultural work available during the off-season (Monga period), and 20 percent of them migrated for the reason of river erosion. Most of the respondents migrated with their whole family, and many of them could not work due to their health and old age. However, they work as housemaids, waste collectors, vegetable sellers and beggars. About 96 percent of the women in her study suffered from health issues such as diabetes, heart disease, high blood pressure, and gout. Most of the respondents felt that their basic needs are not met, and access to the old age allowance is one of their main problems.

Climate migrants and general migrants differed in that climate migrants are elderly and are suffering from disease, and many lost family members during climatic disasters, making them suffer from greater mental stress compared to other migrants. Planned migrants want to move back to their places of origin but climate migrants do not have the opportunity. The general migrants need movement incentives such as health benefits, but climate migrants need old age allowance, health insurance and recreation facilities.

Some of the recommendations from her study were: (i) decentralize slum settlements to nearby cities; (ii) relocate climate affected people to safer areas; (iii) increase existing old age allowance; (iv) GOs and NGOs should invest in infrastructure development and income generating activities for older women in climate affected areas; and (v) ensure strong local initiatives to extend help to women climate migrants.

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Mr. Amir Hamza, Student at BRAC University, Dhaka, Bangladesh, started his presentation reinforcing the importance of recreation and outdoor games in early childhood development. With 98 percent of schools in Dhaka having no play space or recreation facilities, how can the children be catered to?

In Dhaka there are 14,000 schools, and many of these schools don't have playgrounds. Only 2 percent of the children in these schools have access to playgrounds. There is a lack of space. Moreover, the parks are not considered safe, especially for girls. Lack of such spaces impacts our lives and children's cognitive development. So, what is the alternative?



Mr. Amir Hamza giving his presentation at the out of the box session

Mr. Hamza's project explores creating alternative play spaces, with two prototypes: one in Lalbagh (in Dhaka), and another in Noagoan (outside of Dhaka). The two sites have introduced school children to rock climbing spaces as well as engaging play spaces on the balcony and in other open spaces on the school premises. Mr. Hamza showed a video of the prototype in Lalbagh. Using whatever is available to engage kids and allow them to socialize beyond smartphones and video games can be an alternative solution.

Md. Mahbul Haque, Human Rights Defender, CEO, Human Rights Alliance Bangladesh, presented on the human rights of climate refugees. Climate change is impacting people's lives. Bangladesh has been facing challenges to overcome the socio-cultural, economic, and political issues caused by climate-induced migrants moving into urban centers, seeking refuge from climatic hazards at their origin. People moving into the city create big challenges for the government to provide them with public services and goods such as education, healthcare, shelter, employment, food, water and sanitation. Moreover, these migrants turn to begging and living in informal settlements, which inhibits climate resilience. Mr. Haque's study looks into the human rights of climate refugees, examining the violations and abuses faced by these migrants upon coming to cities. Common mental sufferings of climate refugees include nightmares, sleep disturbance, depression, and post-traumatic stress disorder (PTSD).

Mr. Haque reinforced the importance of the right to rehabilitation for migrants and explored the possible approaches. He also emphasized that we should look into the lives of street children to explore why they are begging in the street and what could be a possible alternative for these kids.

Some of the challenges that need to be addressed to ensure equity for climate migrants include: (i) addressing gender based violation and vulnerability of women and girls; (ii) the mental well-being of children; (iii) slum fires; (iv) loss of property and income; (v) dependency and family burden; and (vi) PTSD.

Ensuring that no one is left behind by policies requires: (i) implementation of rights to rehabilitation; (ii) making stakeholders and actors aware of the UN declaration on Human Rights and promoting climate refugees; (iii) promoting climate refugees' access to public services; (iv) an independent investigation body should account for people coming to the city as climate refugees; and (v) laws and rights have to be reviewed and amended.

Discussion;

Mr. Khan led the discussion session which opened the floor for questions from the participants.

One of the participants inquired whether Mr. Hamza conducted a comparative study of existing recreational facilities and alternative play spaces, as he felt that it would be interesting to compare the two.

Mr. Hamza responded that due to lack of security in the parks, school-going children don't feel safe going to these places. We found that children are more comfortable in their school premises. Moreover, with a lack of open spaces and high-rise buildings in most of the city, especially Dhanmondi and Azimpur (the study area), expanding play spaces to the corridors are preferable alternative solutions.

Another participant inquired about the safety of these play spaces, especially the rock climbing? Mr. Hamza responded that he has used the UN guide book for play space references for these initiatives.

A respondent suggested, in reference to Ms. Amzad's presentation, that elderly women should be loved and cared for by family so that they don't feel like a burden or have to work at an old age. So, our society should ensure that communities and families support the elderly women. To this participant Ms. Amzad responded with appreciation and mentioned that the elderly women she talked about in her presentation are physically fit which is why they get involved in income generating activities. These women feel empowered to contribute to the family which is why she suggested that allowances for the elderly should be increased.

Mr. Khan thank everyone for their participation and especially the presenters for their interesting presentations that shed light on the lives of climate migrants and refugees.

Key Recommendation:

- Decentralize slum settlements to nearby cities and relocate climate affected people to safer areas.
- Adopt mobile app tracking and Driver Identification Systems to enhance EV operation and to track vehicles and drivers.
- Maintain green space in the city to ensure healthy environment for recreation, walking and nature observation
- Enhance security in the parks especially for females.
- GOs and NGOs should invest in infrastructure development and income generating activities for older women in climate-affected areas.
- Making stakeholders and actors aware of the UN declaration on Human Rights of climate displaced people
- Ensure strong local initiatives to extend help to female climate migrants.
- Use available space and resources to engage school children and allow them to socialize beyond smartphones and video games.
- An independent investigation body should account for people coming to the city as climate migrants.

6.10 Parallel Session PSD1: Climate Resilient, Migrant Friendly Town: A Case Study of Mongla Port Municipality

Host/Co-sponsor: PROKAS-ICCCAD

Keynote Speaker: **Professor Shawkat Alam**, Director, Centre for Environmental Law, Macquarie Law School, Macquarie University, Sydney, Australia

Sharing Study Findings: **Ashraful Haque & Sumaiya Binte Anwar**, CIM (Climate-Induced Migration) Team, ICCCAD

Discussant: **Gerry Fox**, Team Leader, Promoting Knowledge for. Accountable System (PROKAS)
Mr. Zulfikar Ali, Mayor, Mongla Port Municipality

Session Chair: **Dr. Saleemul Huq**, Director, ICCCAD

Dr. Saleemul Huq, Director, ICCCAD explained that the PROKAS Climate-Induced Migration (CIM) Project is a piloting action research project, where the ICCCAD-CIM team has been working to provide research-based knowledge to develop Mongla Town as a climate-resilient, migrant-friendly town through ensuring quality education, health and housing facilities and access to safe water. Dr. Huq stated that the preliminary outcomes of the study are shared in the forthcoming presentations by the team.

Professor Shawkat Alam, Director, Centre for Environmental Law, Macquarie Law School, Macquarie University, Sydney, Australia presented on “International Law and Policy Informing Bangladesh Climate-Induced Migration Policy”. He focused mainly on the policy frameworks needed to ensure climate resilient, migrant-friendly cities. In this regard, he emphasized SDG goals 11 and 13. He highlighted that making cities and human settlements inclusive, safe, resilient and sustainable under SDG goal 11 will help upgrade slums, ensuring a holistic city planning and development. Inclusive city governance and participation should be a priority, and collectively we are all stakeholders in the development of such policy frameworks. Climate change requires a holistic approach through SDG Goal 13.

Rural to urban migration studies need to consider opportunities and preferences in creating a framework. Migration can act as a climate change adaptation strategy. Professor Alam mentioned that most climate-induced migrants do not consider their movement to be climate-induced. Regular, hidden migration is contributing to the continuous pressure on urban areas, resulting in migration being framed as a negative social outcome. Lack of specific institutional policies and laws also adds to the problem. Professor Alam noted that the UNFCCC provides a basic framework for migrants; the UN has guiding principles on internally displaced persons, and there is also Sendai Framework on Disaster Risk Reduction. Professor Alam reiterated that poor planning reduces the carrying capacity of urban areas. The migration issue is not only an environmental issue but also a social issue. So, it should be initiated from the ‘bottom-up’, comparative approach through Public-Private Partnership (PPP) and civil society. Professor Alam recommended that policies should incorporate marginalized and vulnerable communities.

Gerry Fox, Team Leader, PROKAS, suggested that alternative cities should provide migrants with basic amenities so they can choose these locations as their areas of choice. He mentioned that a lack of data on people migrating has been a problem in projecting accurate scenarios of climate-induced migration. Furthermore, he focused on the exact statistics that should be required for better planning for migrants. However, he highlighted the complexity in identifying climate migrants. He suggested that climate finance is greatly needed from multiple sectors, especially highlighting the importance of private finance. The private sector can play a big role because government finance is not enough for developing climate resilient cities. The government can accelerate development by doing proper policymaking, planning, and implementation.



Sumaiya Binte Anwar giving her presentation at the parallel session

Sumaiya Binte Anwar and Ashraful Haque of the CIM team, ICCCAD, presented a Case Study of Mongla Town. Ms. Anwar mentioned that people started coming to Mongla in 1952 since the establishment of the Chalna Anchorage. Analyzing the historical movement of people to Mongla town revealed that increased employment opportunities at Mongla Port prompted people to move there. People moved from various parts of Bangladesh, especially from Noakhali and Chittagong. With Mongla town growing into an important economic zone of Bangladesh, how will the current capacity of the town cater to current locals and migrants with facilities? Also, what is the perspective of the town on holding a larger influx of migrants in the future?

Ms. Anwar talked about the resources and social characteristics of the Mongla Port municipality, outlining them in a resource map and social map of the municipality respectively. Scarcity of fresh water, salinity intrusion and waterlogging are major problems in Mongla town. Ms. Anwar mentioned Mongla town is a migrant town where two-thirds of city inhabitants are migrants. Also, after the 1988 flood, a large number of families moved to Mongla, especially into slum areas.

Mr. Haque continued the Mongla Case study presentation, explaining the current scenario of education, health and housing in Mongla, and the relevant stakeholders in the Mongla Port Municipality. There are 48 educational institutes including primary schools, high schools, madrasa and colleges in the Mongla Municipality, But the quality of education is not adequate to serve local needs, and around 30 percent of students are moving to Khulna and Dhaka after SSC for better quality education. The locals feel that the recruitment of poor-quality teachers, the absence of trained subject-specialized teachers and a lack of 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 local youth community.

Currently, the town has an inadequate number of health care facilities, with only primary treatment facilities available in the town. Most locals prefer to go to hospitals in Khulna for emergency treatment. Moreover, lack of access to potable water increases their exposure to a number of waterborne diseases. This challenge is exacerbated due to the absence of improved hospitals, poor diagnostic facilities, and 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; a 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; and investment in the infrastructural system to improve the capacity of the local UHC and to bring new and improved medical facilities for the town.

Mr. Haque mentioned that there are four big slums inside Mongla Municipality: Balurmath slum, Ratarati Bosti, Namar Char and Chunagolli Slum (ward 6). Besides this, there are some informal settlements. Most of these settlements are tin-shade houses, and some are made with golpata which is susceptible to damage by cyclones. The study findings reveal that around 60 to 70 percent of people in Mongla Town are from the labor class. Also, there are no specific accommodation facilities for teachers and students, and housing for Government officials and other visitors are not of good quality. This is why many people commute for work to Mongla and live in Khulna. Currently, the drainage facility in the wards of Mongla Municipality is not proficient. However, due to interventions by the Mayor of Mongla, upgrading some of the roads and drains in the slum areas of the municipality, in most of the wards the waterlogging problem has been reduced.

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A lack of dormitories and student housing facilities in the Municipality is causing suffering amongst a large number of students. To minimize this problem, business, local elites and philanthropists should invest in building accommodation facilities for both teachers and student groups. The Municipality and the Khulna Development Authority (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.

Mr. Haque explained some of the important stakeholders in the Mongla Port Municipality, and also identified who should play what roles in ensuring quality education, health and housing. These were his recommendations:

- The Upazilla Education Office, the School Management Committee and the Municipality should arrange a number of trainings to specialize in these subjects and increase accountability.
- Local philanthropists, private sector actors, and the Municipality should provide stipend options for the poor.
- The private sector & the Municipality should work on student accommodation and hostels especially for girls.
- The Upazilla, the Municipality, the Civil Surgeon, and the Management Committee should raise health awareness and work towards increasing the capacity of local health services.
- The Municipality and DPHE should improve and expand water treatment plants, water management, pond excavation, and preservation.
- The Municipality should ensure proper waste management and dumping, and should play a key role in awareness building and advocacy.
- The House Building Research Institute can train brick workers and others involved in the construction process regarding saline and climate-resilient technologies.

Mr. Zulfikar Ali, Mayor, Mongla Port Municipality, highlighted the accomplishments of his Jurisdiction since he became Mayor. He envisions successfully developing Mongla town into a climate-resilient town. He emphasized that waterlogging was the biggest problem in Mongla. Before 2011, all of Mongla town was often inundated by three feet of tidal water, but the inundation problem could be almost fully solved with contemporary initiatives. The Mayor also focused on freshwater scarcity in Mongla town. To meet the town dwellers' freshwater demands, two big ponds (90 acres) have been dug out as a freshwater reservoir in the city. He introduced solar panels as renewable energy on these ponds, which will be able to produce 15 k/w electricity. He highlighted how he has been quite successful in ensuring citizens' security in Mongla town. To achieve this, he has put up closed-circuit television (CCTV) throughout the majority of the wards. Meanwhile, he has developed awareness among local taxpayers. Around 80 percent of people pay the Paurashuva's tax in Mongla Municipality.



Group photo of the panelists of the parallel session

Discussion

One of the participants suggested that to ensure employment, skills must be enhanced. He highlighted that a lot of climate migrants are coming to Mongla town even after climate-related hazards and disasters. He thought that it could ensure sustainable development if the mayor could create more job opportunities in Mongla town. Otherwise, these climate migrants will be a burden for Mongla town.

A participant suggested that gender issues should be considered in terms of elderly women and youth. Especially in the context of socio-economic issues, how multiple marriages and domestic violence has influenced the social fabric of Mongla Municipality is an important aspect to look at in terms of the policy.

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Dr. Huq thanked the participants for their suggestions and added that there is no short-term quick solution for migration. Long-term planning is required, and access to quality education has been chosen as a vehicle for this research to ensure that youth is capacitated. There is no alternative to primary education, and the Mongla case study has emphasized girl's education. Going forward our research will look into providing safe dormitories for girls to ensure that they are allowed equal opportunities for education.



Gerry Fox, Team Leader, PROKAS, expressing his opinion at the parallel session

Key Recommendation:

- It is important to create a database for understanding the push and pull factors of climate-induced migration.
- Migration should be initiated through 'bottom-up' and comparative approaches of Public-Private Partnership (PPP) and civil society.
- Quality education, quality health and housing facilities should be ensured in municipalities.
- The Upazilla Education Office, the School Management Committee and the Municipality should arrange a number of teacher trainings for better subject wise teaching and accountability of their teaching activity.
- The private sector and the Municipality should work on student accommodation and hostels especially for attracting girls to come for education.
- The Municipality and DPHE should improve and expand the water treatment plants, water management, pond excavation, and preservation.
- The Upazilla, the Municipality, the Civil Surgeon, and the Management Committee should raise health awareness and work towards increasing the capacity of local health services.
- The municipality should ensure proper waste management and dumping, and should play a key role in awareness building and advocacy.
- Training should be provided by the House Building Research Institute for brick workers and others involved in the construction process regarding saline and climate-resilient technologies.

6.11 Parallel Session PSD2: Urban Disaster Resilience in Urban Sector Policies

Host/Co-sponsor: Christian Aid & CARE BD

- Chief Guest:** **Mr. Md. Abu Bakar Siddique**, (Joint Secretary), Director-Food for Work, Department of Disaster Management
- Special Guests:** **Mr. Palash Mondal**, Disaster Preparedness Specialist, UNDP
Ms. Khondker Rebaka Sun-Yat, Executive Director, Coalition for the Urban Poor (CUP)
Mr. Kazi Shahidur Rahman, Humanitarian Affairs Specialist, UN Resident Coordinator's Office UNRCO
Mr. Ead Becirevic, DRR Delegate, German Red Cross – Bangladesh
- Keynote Presentation:** **Mr. Md Jafar Iqbal**, National Coordinator, Needs Assessment Working Group-Bangladesh and Program Manager, Emergency Response, CARE Bangladesh
Ms. Shahana Hayat, Humanitarian Program Manager, Christian Aid

Mr. Md Jafar Iqbal, National Coordinator and Program Manager, CARE Bangladesh, gave his keynote presentation on “Inclusive Policy and Guideline for Urban Disaster Needs Assessment”. Due to climate change, certain areas, especially the coastal regions, suffer from disasters such as cyclones, flood, and storms. Urban areas are excessively dense and receive large influx of climate migrants. They are also vulnerable to waterlogging because of rain, fire hazards, and earthquakes. Mr. Iqbal explained that there are certain common, shared, and agreed upon tools for assessing urban disaster risk and response. The outputs of these tools can contribute to building urban resilience. However, a significant problem is that most of the tools have been prepared for rural areas, and since urban areas can vary drastically from rural ones and even from other urban areas, these frameworks and tools need to be updated.

Mr. Iqbal then explained that there should be a government platform focusing solely on urban disaster needs assessment, and on effective response and recovery. The tools should be developed by considering the changing dynamics of urban areas as well as the characteristics of different types of disasters (each will require unique sets of responses and recovery actions). The first and foremost step should be focused on identifying and understanding the characteristics of disasters such as urban flooding and cyclones, and their corresponding frequency of occurrence. Then, it is important to estimate the population size affected by the disaster. A disaster summary sheet should be prepared which will contain all the information related to the disaster. There should be an “urban needs container” from which the necessary data can be quickly obtained for quantifying needs based on different areas. Last but not least, the presenter emphasized the importance of validation tools, such as questionnaires, and publishing findings. He then said that one of the major drawbacks is due to the governance structures which causes the problem with the scale/size of a disaster. This can be addressed by raising the issue in common platforms for urban disaster needs assessment, especially at the upazilla and district levels. Tools can be updated through trial and error testing and taking inputs from local communities, government departments, and all other related urban stakeholders. Different actors like Water Supply & Sewerage Authority (WASA), Dhaka Electric Supply Company (DESCO), the City Corporations and several others need to be brought together under the same common platform for ensuring better coordination.



Mr. Md Jafar Iqbal giving his keynote presentation at the parallel session

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Ms. Shahana Hayat, also a keynote speaker of the session, focused her discussion mainly on “Dhaka Earthquake and Emergency Preparedness - Enhancing Resilience (DEEPER)”. Dhaka city is currently the 4th densest city in the world. As more and more migrants (mainly due to climate change) keep shifting to the capital, combined with unplanned urbanization, climate-induced hazards pose a serious threat. Here, it is important to ensure that urbanization takes place all over the country rather than in only certain cities. She emphasized the usefulness of the guidelines for the second priority of the Sendai Framework for Disaster Risk Reduction. A bottom-up approach is important for ensuring proper decentralization. Here, the importance of investments from private sectors to identify and assess risks, was highlighted. This would require strengthening the governance structures of Bangladesh, especially at local levels. Just developing policies without guaranteeing their compliance and execution in real life is pointless.

Then, Ms. Hayat said that, for improving resilience of an urban area, the following are important: preparedness, protection, fast and effective response (needs assessments play a big role in identifying the right reactions needed and avoiding duplications), and futuristic use of past data (for addressing similar issues effectively in the future). Female involvement in the decision-making, planning, data collection and analysis processes is necessary. Their roles should be clearly stated in the Standing Orders on Disaster (SOD). She raised some interesting questions, including whether the joint needs assessment and the national statistical system properly and comprehensively address the vulnerability of the intersectional groups. Also, how good is the connection between different governance levels (union, upazilla, district and national) and what tools are used for assessments? From the production perspective, how are the interdependencies identified and how is the data disseminated (whether they are actually useful for the necessary actor groups) for being more accountable to the people who are actually being affected? She suggested that in order to improve and harmonize the statistical production and knowledge management system for policy analysis, evidence-based suggestions should be made to the government and policy makers by individuals working at field level.



Ms. Shahana Hayat giving her keynote presentation at the parallel session

Mr. Palash Mondal, Disaster Preparedness Specialist, UNDP, started off by discussing how urban areas are already being portrayed in the policies related to resilience. Urban Sectoral Policy had government commitments to provide land and access to services for the poor. The Delta Plan (addresses urban area management, enhancing capacity, infrastructural resilience to disasters etc.), National Plan for Disaster Management (includes an operational framework for emergency operations), and Displacement Strategy, and some other policies and laws are often enforced in urban areas. The problem is that the development of almost all of these policies was based on the context of rural areas. The Standing Order for Disasters (SOD) contains details of a high-level technical committee for identifying urban hazards along with the details for handling them. The roles and responsibilities for municipalities and committees at every administrative level, and steps for preparedness by the business sectors (like garment factory workers’ safety protocols) have been highlighted in the SOD as well. In order to ensure proper enforcement by the Building Code Committee’s roles have been detailed out with greater clarity in the upcoming policies. Then, there is the Standard Operating Procedure (SOP) to address hazards, specifically for urban areas. The committee for National Emergency Operation Center (NEOC) was established to respond effectively to severe disastrous situations and unanticipated events. However, in order to improve its effectiveness, the committee should be decentralized to the lower administrative levels such as upazilas. Mr. Palash then moved on to discuss in detail the limitations of policies. One of the major drawbacks, as stated earlier, is that most policies’ frameworks were based on the rural context. They need to be urbanized. There should be greater female engagement, and women should be considered as resources rather than being highlighted as one of the weakest and most vulnerable groups during disaster events. Resilience development

depends on multiple social and environmental domains, but at the moment, the major concerns are only related to infrastructural developments.

The focus should be shifted from Dhaka. Rural areas need to be considered as future urban areas and investments should be made in them accordingly. The National Resilience Program (NRP) has certain tools, one of them mainly for preparing a “package” (which includes meeting the requirements of baselines for different services) that will ensure that an urban area is properly prepared for disasters if it is implemented. There should be city wide contingency plan along with details of enforcement. He concluded his discussion by saying that things are looking bright in the future by using the example of Sendai framework’s indicated data collecting tools are being prepared by the government currently.

Mr. Ead Becirevic, DRR Delegate, German Red Cross Bangladesh, stated that their work is mostly based on needs assessments, focusing mainly on the inclusion of bottom-up approach in the community. He pointed out that more thought should be given to establishing an appropriate definition of vulnerability. There is still a lack of adequate preparedness measures for vulnerability to cyclone events.

Mr. Becirevic mentioned that the SOD-2015 is still being used but the problem is that, within 5 years, the work for addressing vulnerability of different age groups has not been updated. Dhaka is currently in a very fragile state and if the roots of the vulnerability are not addressed effectively, the hazards can result in disastrous events at any time. Focus should be given on the root of the issue rather than on the surface problems. In this regard, he gave three suggestions to tackle the problems: (a) understanding the induction of vulnerability; (b) capacity building for reducing vulnerability; and (c) developing special tools to manage hazards.

Ms. Khondker Rebaka Sun-Yat, Executive Director, CUP, started by saying that a 100 NGO networking forum is working on urban disaster. She highlighted that although the Urban Sector Policy is very rich, vital aspects like urban structures, inclusion of urban poor friendly facilities, and variations of hazards should be addressed better in policy. She added that urban fire is a very common hazard but Fire Disaster Management sector lacks the necessary criteria to handle such events. She also explained that in Bangladesh there is a lack of policies for taking into account the variation in the impacts of disasters based on the different types of areas effected, for example whether it is in an urban area or a rural one. There is also the issue of lack of coordination, and she said it needs to be adaptive in nature. When it comes to disaster management, the different ministries, whether or not directly related, should reach a solution by working together.

She suggested some policy recommendations, including:

- Measuring the Urban Disaster intensity and possible consequences so that we can act accordingly in the case of an event. The responsibility of accountability should be given more emphasis.
- The Ministry of Disaster Management needs to build another wing for acquiring all vital information swiftly in order to take proper recovery actions in times of need.
- The urban administrative structure should give greater priority to coordination with the disaster management sector.

Mr. Kazi Shahidur Rahman, Humanitarian Affairs Specialist, UNRCO, also said that measuring vulnerability is a vital step for achieving resilience. From a welfare perspective, each ministry is a vertical ministry. He discussed the need to implement different strategies to overcome the loss and damage of a disaster. He said that the institutional lack of capacity is also important to tackle disaster. The factors related to a disaster are different for urban and rural areas. A major problem is that we have to mostly rely on the existing institutional setup. He recommended that a relation should be established between resilience and risk. Institutional volunteerism should be encouraged. Furthermore, people’s mindset should be changed for comprehensive loss and damage.

Discussions

Several recommendations were made in the open discussion session. Building codes need improvements and also better enforcement before the construction of buildings. For instance, if a ramp is included in the building code, then it will sustain more than the lift. Short and disabled people face problems while using foot-over bridges. For them, there should be well regulated zebra crossings to get to the other side of the road.

Dr. Saleemul Huq, Director, ICCCAD, described the large amount of time required in the implementation of a policy. So, he suggested that we should try to take initiatives from our side rather than always relying on the government. He also said that we should come up with innovative and effective ideas by ourselves rather than waiting for recommendations from the government to come out.

The chief guest of the session, Mr. Md. Abu Bakar Siddique, (Joint Secretary), Director-Food for Work, Department of Disaster Management, said that urbanization itself can be a disaster. He highlighted that climate change induced disasters should be given importance, while also considering the differences of urban and rural areas. Improvements should be made accordingly to policies and coordination is vital. For example, due to lack of identification of the roles of different sectors and their coordination, instead of actually responding to a disaster, it actually leads to an unnecessary chaotic situation (like fire dept or police or military etc.) There are a lot of policies but they are not implemented properly.



Group photo of the panelists of the parallel session

He also discussed about a few types of urban disasters and also how disasters can vary based on the affected areas. He used Old Dhaka as an example in which he said that Old Dhaka might be vulnerable to certain hazards which on the other hand, have no chance of threatening rural areas. He also mentioned that in SOD, urban hazard is not highlighted. Poor coordination among different sectors is also a big problem in Bangladesh.

- There should be a Joint Needs Assessment for ward, union and district level, and data accessibility should be ensured for the affected community.
- Improve and harmonize the statistical production and knowledge management system through proper policy implementations.
- Reform the national resilience program. We need to report Sendai framework to recognize the designated data.

Key Recommendations:

- There should be a government platform focusing solely on urban disaster needs assessment, and on effective response and recovery.
- Different policies are needed for disaster management for urban and rural areas.
- There should be proper accountability and better coordination among the various authorities and sectors.
- In disaster management, the different ministries should have a consensus for working together.
- It is important to ensure that urbanization takes place all over the country rather than in only certain cities.
- A bottom-up approach is important for ensuring proper decentralization of urban activity.
- The Disaster Management sector should be given higher priority, and should have quick access to vital information necessary during a disaster event.
- Building codes need improvements and also better enforcement before any construction.

- Capacity building programs are required in order to reduce vulnerability of people to disasters.
- There should be reforms in certain policies so that they include disaster management, including reduction, preparedness and response.
- Women's empowerment is necessary and inputs from women and community people should be taken into account during policy formulation.

6.12 Parallel Session PSD3: Integrated and Sustainable Waste Management for Socioeconomic Empowerment of Informal Workers

Host/Co-sponsor: Practical Action

Welcome speech: **Faruk-Ul-Islam**, Ph.D., Head of Business Development & Quality Assurance; Practical Action

Moderator: **Uttam Kumar Saha**, Strategic Lead-Urban and Energy; Practical Action

Keynote Presentation: **Dr. Tariq Bin Yousuf**, Superintending Engineer-Environment, Climate and Disaster Management Circle; Dhaka North City Corporation (DNCC)

Mahobul Islam, Specialist- Integrated Waste Management; Practical Action

Panelist/Discussants: **Md. Rafiqul Islam**; Mayor-Shariyatpur Municipality & Secretary General of Municipal Association Bangladesh (MAB)

Md. Abul Kalam Azad, Director (Rangpur Division) & Project Director, Programmatic CDM Project; Department of Environment

Shamim Ahmed, Former President; Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA)

Dr. Mahfuzul Haque, Adjunct Faculty; Bangladesh University of Professionals

Chief Guest Speech: **Md. Shafiqul Islam Akand**, Additional Chief Engineer, Urban Management- Local Government Engineering Department (LGED)

Closing Speech: **Hossain I. Adib**, Head of Programme Implementation; Practical Action

Uttam Kumar Saha, Strategic Lead-Urban and Energy, Practical Action, acting as the moderator of the session gave a brief description of activities of Practical Action, Bangladesh. He focused mainly on their organizational aims for the urban sector, including how they have been working to ensure resilient urban waste management in Bangladesh.

Dr. Tariq Bin Yousuf, Superintending Engineer-Environment, Climate and Disaster Management Circle, DNCC, presented on the prospects and challenges of the waste management sector as a whole in contributing to urban resilience in Bangladesh. Currently, the waste generation rate is 0.25-0.50 kg /cap/day and collection efficiency is around 60 percent on average. The waste management system hardly reaches slums or low-income settlements. It functions through adopting an end-of-pipe approach, which entails collection, transportation, and disposal to a landfill site. This waste emits a huge amount of methane gas, which contributes to global warming. Moreover, there is no source segregation process in the current waste management system. Moreover, Dr. Yousuf emphasized that lack of public awareness, low integration of the formal and informal



Dr. Tariq Bin Yousuf giving his keynote presentation at the parallel session

sectors, and lack of intervention from the private sector are responsible for the flawed waste management system. In his evidence, he noted that, though the community participation is encouraging, lack of funding from the private sector limits the scope of interventions such as recycling and composting.

Dr. Yousuf emphasized that the management of the increasing amount of waste in urban areas of Bangladesh will be a major challenge, as waste accumulation will grow to be about 17.15 million tons by 2025. These huge amounts of waste will result in a 20 million ton increase in GHGs emissions by 2020. However, there is potential to convert waste into value-added resources, in particular organic compost, bio-gas and refused derived fuel (RDF).

Different strategic, technical, social and environmental challenges and opportunities of waste management should be considered to ensure economic gains, higher productivity, resource recovery, employment generation, and humans & ecosystems risk reduction. In this context, Dr. Yousuf mentioned waste as a resource instead of a nuisance and emphasized several principles, including: source segregation of waste in our daily lives; polluter tax to reduce carbon footprints; and adoption of the Reduce-Reuse-Recycle (3R) strategy to manage resources. Partnerships with city corporations, municipalities, the private sector, and the public sector have to be scaled up for waste resource management.

Also, the inclusion of modern technology is essential for ensuring effective and sustainable waste resource management. Although Bangladesh governments took initiatives for waste management, the results were disappointing. Public awareness, tapered mentality, communication gaps, and a lack of a knowledge sharing platform were the main reasons for this failure.



Audience at the parallel session

Dr. Yousuf also emphasized the issue of Waste to Energy (WtE). Energy recovery from municipal solid waste (MSW) plays a key role in sustainable waste management and energy security. WtE is an easier solution, because a WtE plant can recover both energy and material. Policy & regulatory compliance, social and cultural due diligence, environmental compliance and institutional capacity development should be ensured to bolster WtE technology. Dr. Yousuf reinforced the need to focus on a financially sustainable waste management system that is also environmentally compliant.

Mahobul Islam, Specialist- Integrated Waste Management, Practical Action, gave a presentation on good practices of informal waste workers and waste service model. He described how the city corporations and municipalities follow the traditional "collection, transportation, and disposal" system, and improper disposal of waste often leads to blockage in the drainage system. This results in overflowing streets, odor pollution, greenhouse gases emission and the spread of diseases. Mr. Islam added that more than 1 million people work across the waste management value chain, and their limited knowledge and skills results in accidents and deaths. About 36 percent of people involved in this system suffer from some type of physical discomfort the entire year. Mr. Islam accentuated that Practical Action is working to reduce workers' vulnerabilities, improve their livelihoods, and allow them to live with dignity. They worked for a paradigm shift for the target groups: informal waste and sanitation workers, worker business cooperatives, low-income urban community organizations, civil society organizations, waste recycling companies, waste trading wholesalers, and retailers and their associations. Mr. Islam added that Practical Action is aiding in the transformation of these informal service providers by categorizing them as sweepers, waste collectors, pit emptier, and scrap collectors.

Mr. Islam emphasized that the business Association of Waste Recycling Companies and their supply chain would be sensitized and capacitated to introduce and scale-up Corporate Social Responsibility (CSR) and contribute to policies. These will help the informal waste and sanitation workers to realize their social and economic rights. Informal workers would be empowered to work with various local, national and international civil society platforms to advocate, generate and share evidence for ensuring the social and economic rights of the informal workers and to scale-up inclusive models. Some sustainable good practices of Practical Action's waste management project covered all stages of waste streams, including generation, segregation, transfer, sorting, treatment, recovery and disposal. Mr. Islam mentioned these good practices will help generate employment while reducing the carbon emissions from landfills. Reduction in 0.5 tons of GHG emissions, production of 0.25 tons of good quality compost and 40-80 cubic meter of biogas, will lead to an environmental benefit for over 2000-3000 people. To conclude, Mr. Islam emphasized the importance of micro-enterprises in greening the economy, multi-stakeholder engagement, local political leadership and policy liberalization for advancing inclusive and green growth.

Discussion:

Chief executive officer from Faridpur Municipality shared some field-level issues faced by informal waste workers, which include:

- Most of these workers are ill-paid and many municipalities fail to provide a monthly salary.
- Workers' safety is not always addressed by most of the municipalities.
- The Government doesn't have enough money for municipalities' workers.
- Financing management is one of the major problems in municipalities.
- Workers failed to generate income and move into other livelihoods.
- Government subsidies are essential.

A municipality worker from Faridpur municipalities shared some of her challenges on the job. On safety, she said that night shift work at municipalities is too risky for them but they would have no problem doing it if the salary was good. As the payment is quite low, municipality workers lose interest in working, and tend to switch their livelihood. She added that females are switching to alternative livelihoods, while seeking government-initiated training or subsidy.

Another participant from the Barguna municipality raised the issue of the insufficiency of rules and regulations. He added that focus should be on environmental conservation to reach the goal of sustainable waste management, mentioning the example of Bagerhat Municipality. The government provided financial support to Bagerhat municipality to improve the situation of their informal workers.

Personnel from Gazipur Municipality mentioned that, as green city development is a long-term process, they are moving toward modern urban concepts such as energy to electricity, and are seeking private sector contributions. The Karmo Jibi Nari foundation shared how they are already working with thirty City Corporation women to save their money for alternative livelihoods.

Shamim Ahmed, Former President; Bangladesh Plastic Goods Manufacturers & Exporters Association (BPGMEA), emphasized waste management and aim for incorporating modern technology for the post waste management. Awareness building and maintenance of infrastructure should be more focused. Everyone should try to reduce waste generation in our city and focus on the 3Rs. He also mentioned that informal workers should be incorporated with the work for food programme for alleviating their financial crisis.



Participants giving their opinion over the discussion during the parallel session

Md. Abul Kalam Azad, Director Rangpur Division & Project Director, Programmatic CDM Project, Department of Environment, emphasized reducing GHG emissions from waste by composting solid waste. He emphasized that source segregation is the main drawback for waste processing and the license acquiring procedure for composting is quite a difficult process. Mr. Azad also added that composting businesses need a subsidy from the government like the chemical fertilizer industry receives. These subsidies might encourage people to join in composting businesses that can reduce GHG emissions and also provide green jobs for people. Mr. Azad agreed with Dr. Yousuf's presentation that necessary steps need to be taken at the policy level, to save our environment and to help us to reach our goals.

Dr. Mahfuzul Haque, (Former Secretary, GoB), Adjunct Faculty-Bangladesh University of Professionals suggested creating a Corporate Social Responsibilities Fund where all of the corporate offices needed to be engaged and represented, to increase awareness through daily activities.

Md. Rafiqul Islam, General Secretary (MAB), Mayor-Shariyatpur Municipality mentioned that land is scarce for dumping waste. He also mentioned that, if the Government can provide fallow land for dumping waste to the City Corporation, which may be helpful to protect our environment.



Panelist discussion during the parallel session

Following the discussion, some suggestions had come from the participants for better waste management. Segregating waste was once again highlighted with other interventions such as low-cost, eco-friendly management, more waste more compensation, youth involvement, and public-private partnerships.

Shafiqul Islam Akand, Additional Chief Engineer (Urban Management), LGED mentioned that we know the problems and the solutions. But we do lack motivation and a knowledge-sharing platform. Mr. Akand reiterated that public-private partnerships are necessary to build a green city. He thanked everyone for attending and concluded the session intending to reach the goal as soon as possible by focusing more on the policy level and creating leadership at the municipality level to build awareness at the community level.

Key Recommendation:

- Partnerships between City Corporation, municipalities, private sector, and the public sector have to be scaled up for effective waste management in cities.
- Advancing inclusive and green growth require engagement of multi-stakeholders, micro-enterprises, local political leaders and policy planners.
- Source segregation of waste in our daily lives; polluter tax to reduce carbon footprints; and adoption of the Reduce-Reuse-Recycle (3R) strategy are needed to manage waste properly.
- The Government should provide fallow land for dumping waste to the City Corporation, which may be helpful to protect our environment.
- Policy & regulatory compliance, social and cultural due diligence, environmental compliance and institutional capacity development should be ensured to bolster WtE technology.
- Creating a Corporate Social Responsibilities Fund where all of the corporate offices needed to be engaged and represented, to increase awareness through daily activities.

6.13 Plenary 3: Summary of the Conference Award Giving and Conclusion

Host/Co-sponsor: ICCCAD

Chief Guest: **Habibun Nahar**, Deputy Minister, Ministry of Environment, Forests & Climate Change (MoEF&CC)

Special Guest: **Prof. Dr. Shamsul Alam**, Senior Secretary, Planning Commission (GED)
Dr. Qazi Kholiquzzaman Ahmad, Chairman, Palli Karma Sahayak Foundation (PKSF)

Discussant: **Hasina Mushrofa**, BRAC-UDP
Dilruba Haider, Programme Specialist, Disaster Risk Reduction, Climate Change & Humanitarian Action, UN Women
Dr. Nurun Nahar, Deputy Chief, Programming Division, Planning Commission, Ministry of Planning, GOB
Farah Kabir, Country Director, ActionAid
Mostafa Quaium Khan, Advisor, Bangladesh Urban Forum (BUF)
Dr. M. Shafiq-Ur Rahman, Professor, Urban Resilience Programme (URP) Jahangirnagar University
S. M. Mehedi Ahsan, Senior Urban Resilience Specialist, KfW
Rafiqul Islam, Mayor Shariatpur and Secretary-General, MAB

Session Chair: **Dr. Saleemul Huq**, Director, ICCCAD

Dr. Saleemul Huq, Director, ICCCAD acting as the session chair, did a quick recap of the conference. The summary was presented by Rukhsar Sultana, Researcher, ICCCAD, who briefly discussed the major findings from the different plenary and parallel sessions over the three days of the Fourth Annual National Conference on Urban Resilience.

This was followed by a round-table discussion session in which various topic experts as well as policymakers shared their insights on the issue of urban resilience, and also proposed ways that they can support the concept of climate-resilient, migrant-friendly towns, and cities in Bangladesh.



Rukhsar Sultana sharing the summary of the conference

Farah Kabir, Country Director, ActionAid Bangladesh, highlighted that social networks and peer support in a destination city or town, often act as the strongest pull factor driving people to migrate. Considering the significant trauma often experienced by environmental migrants, she suggested that migrants should be provided with psychosocial services. A system or mechanism has to be developed in the areas where migrants tend to move to provide these services. Ms. Kabir went on to recommend that planned migration, is the way forward to ensure climate resilient migrant-friendly cities. Moreover, interventions should also be undertaken to enhance resilience and livability of climate-vulnerable areas so that people are less compelled to migrate.

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S. M. Mehedi Ahsan, Senior Urban Resilience Specialist, KfW, shared some of his experiences from working in several climate-vulnerable districts and sub-districts in Bangladesh. He highlighted that since the impacts of natural disasters and climate change tend to manifest in a highly localized manner, the technical and institutional capacity of urban local government bodies of vulnerable municipalities must be strengthened. In this view, he inquired about whether the central government has provisions for capacity building of these municipalities.



Chief guest, Special guest, Discussants and Session chair of summary of the conference session

Dr. Nurun Nahar, Deputy Chief, Programming Division, Planning Commission, Ministry of Planning, GOB, mentioned that the General Economics Division (GED) under the Ministry of Planning has been making efforts to understand how to effectively allocate resources for alleviating urban poverty in Bangladesh. The Programming Division of the ministry is presently engaged in the development of a National Resilience Programme (NRP), which is expected to serve as an umbrella programme aimed at delineating what would constitute resilience for Bangladesh. With the government trying to digitalize the process of formulating the Annual Development Plans (ADP), robust systems for Environmental Impact Assessment (EIA) must be set up. It will ensure development interventions to align with the country's climate resilience goals.

Dilruba Haider, Programme Specialist, DRR, Climate Change & Humanitarian Action, UN Women, drew attention to the issue of data unavailability and inaccessibility in Bangladesh. To effectively address urban issues in the country, steps must be taken to ensure adequate and appropriate data is generated. She highlighted that building urban resilience should not be limited to infrastructural development, and substantial emphasis has to be given towards socioeconomic elements, such as gender disparities. Policies and practices should actively consider gender-differentiated needs and requirements of different socially excluded groups, particularly women. Accordingly, significant research needs to be undertaken to better understand these disparities. This will allow for gender-responsive action from policymakers to address urban issues in the face of climate change.

Hasina Mushrofa, Programme Head, BRAC UDP, spoke about BRAC-UDP's work which has been supporting 1 million urban poor across 20 cities in the country using the modality of public-private partnerships (PPP). She stressed the importance of cooperation among public and private sector actors to address the issue of urban poverty in Bangladesh. With urban poverty anticipated to increase substantially in the coming decade, accurate data and projections would be crucial to effectively plan and design interventions for tackling the issue. She closed her remarks by recommending the development of some sort of National Urban Resilience Framework, with a focal government agency assigned for its implementation.

Dr. M. Shafiq-Ur Rahman, Professor, URP Jahangirnagar University, remarked on the importance of smart and efficient processes for sustainable urban development in Bangladesh. This could help curb the adverse impacts of any disruption brought forth by climate shocks and stresses. Accurate and reliable data would be vital for driving these processes forward. He also suggested that the urban poor should be considered assets rather than a burden. Moreover, he asked for equitability in access to urban services.

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Mr. Mostafa Quaium Khan, Bangladesh Urban Forum, drew attention to the increasing urban poverty as an issue of concern for Bangladesh, and therefore there is a need for policymakers and development practitioners to shift their focus from rural poverty. He expressed his gratitude towards the participation of a wide range of actors at the conference, who had exchanged valuable insights on the issue of urban resilience over the last three days. To capture the lessons learned and harness the outcomes of the conference, he recommended producing a comprehensive outcome document from the conference targeted at policymakers as well as the media.



Audience at the summary of conference session

In a similar vein, Rafiqul Islam, Mayor Shariatpur and Secretary-General, MAB recommended developing a set of guidelines for urban resilience in Bangladesh, based on the lessons learned throughout the conference, which can then be implemented and tracked.

Dr. Qazi Kholiquzzaman Ahmad, Chairman, Palli Karma Sahayak Foundation (PKSF), acting as the special guest for the session, began by reiterating the importance of understanding the needs of migrant populations in the country. In addition to developing migrant-friendly destination of cities and towns. Priority has to be placed on minimizing the phenomenon of rural-urban migration. To achieve this, the focus should be on adequate service provision in rural areas as well as secondary and tertiary towns and cities. This will ensure that people stay back in their homes, and are not driven to migrate due to adversity. He remarked that while there are several national plans and strategies in place to support urban development in Bangladesh, their implementation has been relatively weak for the most part. He stressed that investments in human capital and Information Communication and Technology (ICT) would be two of the most critical elements to ensure sustainable urban development in the face of climate change. Raising awareness of the youth, not only on environmental issues but also on socioeconomic factors, would also be vital. He reiterated the importance of data, especially with national SDG targets in place. Some sort of a data revolution would, therefore, be critical. Closing off his remarks, he also recommended that the above investments should be largely driven by national actors from both the public and private sectors, without being over-reliant on donor support.

Prof. Dr. Shamsul Alam, Senior Secretary, Planning Commission (GED), acting as the special guest for the session discussed the duality of rapid urbanization and vulnerability to climate change in Bangladesh. While it is evident that a substantial degree of rural-urban migration will occur in the coming decade or so and the urban population is likely to exceed the rural population in Bangladesh, this does need to be alarming and could instead bring forth a range of benefits. As the country continues to follow its trend of development, the rural-urban divide is expected to diminish over time, gradually reducing the disparities in terms of service provisions across the country. Therefore, the focus should be on minimizing that rural-urban divide through a planned and strategic manner. Gender and youth empowerment across all facets. Responding to the issue of limited implementation of policies and practices on urban resilience in Bangladesh, he highlighted that several targets set out in the government's Perspective Plan 2021 have already been accomplished, indicating that successful implementation is happening to some extent and the situation is not as dire as often deemed to be. He then referred to several national strategies and plans currently in development, particularly the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) which is being reviewed and the 8th Five Year Plan (8FYP) under preparation, and suggested that the issue of urban resilience and planned migration are incorporated into these documents. Also, rather than setting up a separate, standalone ministry for addressing urban issues in the country, he recommended empowering and capacitating the existing urban local governments especially the municipalities. This will also facilitate better urban governance in the country.

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Ms. Habibun Nahar, Deputy Minister, Ministry of Environment, Forests & Climate Change (MoEF&CC), acting as the chief guest for the session began by thanking the organizers for creating such a platform for government officials and topic experts to interact, exchange views and discuss plans of action. She then referred to the problem of urban development in Bangladesh being hyper-focused on Dhaka, the capital city. This rapidly growing urban population is likely to place an immense burden on the capital, consequently contributing to a range of environmental and social issues. This will also lead to substantial economic disparities across the country, with other economic zones remaining relatively underdeveloped. Therefore, urban development in terms of infrastructure, human capital, service provisions, etc. should be reasonably distributed across the country and resource allocation needs to be done accordingly. In addition to service provision and infrastructure development, equal emphasis should also be given towards social development, particularly the empowerment of socially excluded groups. The youth will need to be empowered with awareness, knowledge as well as skills on relevant topics. Local government bodies will also need to be strengthened to support urban resilience in the country. She concluded her remarks by highlighting that different sets of actors will need to collaborate and work together, leveraging each other's competitive strengths, to help achieve the aim of climate-resilient, migrant-friendly urban development in Bangladesh.



Ms. Habibun Nahar, Chief Guest giving her remarks at the concluding session

Key Recommendations:

- Psychosocial services should be provided to the migrants forced to displace, to ease their transition into the destination.
- Planned migration, is the way forward to ensure climate resilient migrant-friendly cities.
- Interventions should also be undertaken to enhance resilience and livability of climate-vulnerable areas so that people are less compelled to migrate.
- Steps must be taken to ensure adequate and appropriate data is generated.
- Development of a National Urban Resilience Framework is needed, with a focal government agency assigned for its implementation.
- Developing a set of guidelines for urban resilience in Bangladesh, based on the lessons learned throughout the conference, which can then be implemented and tracked.
- Technical and institutional capacity of urban local government bodies should be strengthened.
- Policies and practices should actively consider gender-differentiated needs and requirements of different socially excluded groups, particularly women.
- The National Urban Resilience Framework has to be developed with a focal government agency assigned for its implementation.
- The urban poor should have access to urban services equitability.
- Adequate service provision should be provided at rural areas as well as secondary and tertiary towns and cities.
- Investments in human capital and ICT should be ensured for sustainable urban development.
- Investments should be largely driven by national actors, both from the public and private sector, without over-reliance on donor support.
- It is important to ensure that the rural-urban divide is minimized in a planned and strategic manner.
- The issue of urban resilience and planned migration should be incorporated into the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) being reviewed and the 8th Five Year Plan (8FYP) is under preparation.

- Urban development in terms of infrastructure, human capital, service provisions, etc. should be reasonably distributed across the country and resource allocation needs to be done accordingly.
- Service provision and infrastructure development, equal emphasis should also be given towards social development, particularly the empowerment of socially excluded groups.
- The youth will need to be empowered with awareness, knowledge as well as skills on relevant topics.
- Different sets of actors will need to collaborate and work together, leveraging each other's competitive strengths, to help achieve the aim of climate-resilient, migrant-friendly urban development in Bangladesh.

6.14 Urban Resilience Award Giving Ceremony

Sarder Shafiqul Alam, Coordinator, ICCCAD requested the Chief Guest and Special Guests of the concluding session to take part in giving the Urban Climate Resilience Award. This is the second year that the conference has taken the initiative to acknowledge the remarkable work being done by urban resilience practitioners. Mr. Alam mentioned the purpose of the award is to promote best urban resilience practice with a wider community as well as to create competition for building urban resilience and migrant-friendly cities and towns in Bangladesh.

A total of five organizations were identified for the Urban Climate Resilience Award 2019. The winners of the awards and their corresponding works which earned them this are as follows –

- 1) Md. Zannatul Ferdous, Mayor, Singra Municipality was awarded for their work in promoting e-Rickshaw as Public Transport and e ambulance for Emergency at the Singra Municipality Area
- 2) Ahsan Rony, Founder and President, Green Savers were awarded for his work on Tree Hospital by Green Savers in Dhaka.
- 3) Dr. Khalid Hossain, Program Manager, Oxfam was awarded for their work in Resilient, Inclusive and Innovative Cities in Bangladesh (RIICB) especially in Mymensingh and Dhaka
- 4) Shafiqul Islam, Assistant Engineer, received award on behalf of Shariatpur Municipality for its Construction of Necessary Infrastructure to Protect the Shariatpur Pourashava from Regular Climate Change and Build Comprehensive Protection Plan to Reduce Natural Disaster in Shariatpur Municipality.
- 5) Hasina Mushrofa, Programme Head, BRAC-UDP was acknowledged for her work in Public-Private Community Partnership (PPCP) in Building Migrant Friendly Resilient Cities in Bangladesh.

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After the award giving ceremony, the conference was wrapped up by Mr. Alam. He reiterated that the three-day conference was made successful for the fourth consecutive year, thanks to the participation and contribution of the chief guests, special guests, session host organizers, and the participants. With their valuable insights, the 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.



Urban Resilience Champions taking award from the chief and the special guest of the session

7.1 Summary findings

The four conferences on Urban Resilience hosted by ICCAD has so far focused on “Building Climate Resilient, Migrant Friendly Cities and Towns in Bangladesh”. The conference mainly brought together experts, academics and policy makers who discussed the latest developments in urban resilience policies and practices, challenges and opportunities faced in urban centers in Bangladesh the outcome from all these discussions comes down to building building cities as climate-resilient and friendly towards migrants; The discussion also revolved around governance, accommodation of the sustainable development goals (SDGs) as well as the collaboration and potential resource management in those cities.

The three-day Fourth Annual on Urban Resilience conference had over 700 participants comprising academics, government and non-government personnel from a wide variety of sectors. Throughout the conference, three plenary sessions and ten parallel sessions took place which had identified twenty key recommendations which have the potential to help make our cities better adapt to climate change and in that light in- migration to those

cities. The recommendations highlighted the urgency of ensuring basic amenities to the urban population as well as climate migrants.

The people living in informal settlements are often faced with the risks and vulnerabilities associated with living in densely populated urban slums. Their lifestyle is often compromised by waterlogging, poor drainage and sanitation facilities, lack of access to safe water, and fire hazards among others. To overcome such adversities, cities and towns need adequate food, water and energy security along with a proper waste management system for its population. Planned migration should be emphasized to build Climate-Resilient and Migrant-Friendly cities and towns across Bangladesh. The mushrooming slum population of the cities require a long-term urban migrant database that will monitor the movement of migrants into the city. This will ensure that urban poor and slum dwellers are incorporated and accounted for in urban planning. Local government, Municipal Association of Bangladesh (MAB), Department of Social Services (DSS), Bangladesh Bureau of Statistic (BBS), Public-Private Partners and other relevant actors and stakeholders have to collaborate to ensure enhanced access to social security for all citizens.

Sustainable health services are an important component of SDG goal-3 (good health and wellbeing). People living in slums are suffering the most due to inadequate and unaffordable medical services. Thus, the medical sector of Bangladesh needs to focus on equity and further funding to support the most vulnerable groups instead of negative business as usual practices.

Access to safe water should be promoted through the introduction of a water tariff model which is financially viable and socially acceptable. Water and Sewerage Authority (WASA) should assure incorporation of these progressive tariff models in other municipal areas within their jurisdiction. Development of knowledge and skills of service providers are needed to ensure proper waste management systems in the cities and towns. Local government bodies should promote the recycling of waste and the resale of waste materials by providing rewards for innovators. This will help encourage people's participation in point waste segregation and inspire policies that promote better waste management.

Reformation of educational institutions and training provisions will give individuals better access to jobs opportunities, encouraging self-sustenance, job creations will also help the cities with the challenges of unemployment that precedes with the incoming influx of migrant populations. Importance should be given in developing skilled human resources. Investments in human capital will enable improvements in ICT services as well. To catalyse skill development, youth should be made aware of the importance of education. Job opportunities catalyzed by urbanization create scope for technological advancements and new innovative research. Young minds need to be properly utilized in developing innovative technologies to resolve the needs of growing city population demands. Education sector improvements should be driven by national actors, both public and private, without overreliance on donor support.

The conference also highlighted the need for initiatives to look beyond government. Tapping into institutional linkage and people's involvement with different initiatives will develop leadership and ownership amongst citizens, subsequently, this will help the cities to tap into the immense potential of human capital in building smart climate-resilient cities and towns in future, beyond dependence on government institution. The suggestions put forward by experts reinforced the need to tap into the immense potential of the youth population in the cities. Investing in youth and supporting the next generation will ensure the development of the climate-resilient city.

The conference focused on Urban Street Children in terms of their need to access basic and better education with the hope that they can take the lead to create a better world. A recommendation brought forth in the discussion reinforced the need to have climate champions and especially leadership building amongst young girls alongside proper education and skills development training.

New initiative-based projects implementation requires accessibility of funds. Funding is crucial, but if not available, there should be alternative plans like insurance and engaging in private sector investment.

Urban resilience should put substantial emphasis on socioeconomic elements, such as gender disparities during infrastructural development. Policies and practices should actively consider gender-differentiated needs and requirements of different socially excluded groups, particularly women.

The focus should be given on ensuring that the rural-urban divide is minimized in a planned manner. Gender and youth empowerment will always need to be considered. The issue of urban resilience and planned migration needs to be incorporated into policy documents of Five-Year Plan, BCCSAP and other relevant documents; this is a shining beacon of hope for creating climate-resilient and migrant-friendly cities. On the whole, the goal should be making every city and town livable and gradually reduce the rural-urban divide that exists in Bangladesh.

7.2 Key Recommendations:

1. Climate-resilient, migrant-friendly urban development

- Planned migration is the way forward to ensure climate resilient migrant-friendly cities.
- A number of secondary towns should be identified which could attract and absorb at least a million migrants each.
- All relevant actors should play their respective role to facilitate cooperative and collaborative actions.
- Central government should play the anchor role and bring all the actors on the same platform
- Dissemination of information is essential for people to choose their destination for migration.
- Making a climate-resilient migrant-friendly city that provides people with amenities and ensures livelihood is a critical way forward.
- Working with Climate Migrants requires cooperation between both the host community and the migrants.
- Migration should be initiated through 'bottom-up' comparative approach through Public-Private Partnership (PPP) and civil society as it is an *environmental and social issue*
- Interventions should also be undertaken to enhance resilience and livability of climate-vulnerable areas so that people are less compelled to migrate.

2. Legal Framework and Policy

- Schools, hospitals and industries could be brought under a legal framework
- The issue of urban resilience and planned migration should be incorporated into the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) currently under review; the 8th Five Year Plan (8FYP) is under preparation.
- Including the urban poor in the *8th Five Year Plan* as well as in the Delta Plan.
- Laws and rights of migrants have to be reviewed and amended.
- Development of a National Urban Resilience Framework with a focal government agency assigned for its implementation.
- Developing a set of guidelines for urban resilience in Bangladesh, based on the lessons learned throughout the conference, which can then be implemented and tracked.

3. Decentralization of Urbanization

- Planned decentralization of the migrants to accommodate them in different parts of Bangladesh.
- Decentralize slum settlements to nearby cities and relocate climate affected people to safer areas.
- Adequate service provision should be provided at rural areas as well as secondary and tertiary towns and cities
- Urban development in terms of infrastructure, human capital, service provisions, etc. should be reasonably distributed across the country and resource allocation needs to be done accordingly.
- A bottom-up approach is important for ensuring proper decentralization of urban activity.

4. Municipality level interventions

- Quality education, quality health, quality housing and proper water supply facilities should be ensured in municipalities.
- Decentralization of taxes is a necessity to make sure that municipalities can become independent and autonomous to carry out their development through tax revenue within the municipality.
- There should be policies which should allow municipalities to have greater access to the total land and income tax generated
- A municipality should have better accountability of the government regarding waste management.
- Improvements should be made regarding the budget, financial accessibility for local authorities,
- Members of MAB should work with students to educate them about SDGs, that will help them get involved in making better municipalities' planning.
- MAB needs to work on its advocacy to achieve the goals of the central government.

5. Capacity Building on Urban Resilience

- Skill-based training and financing services should be ensured for employment slum dwellers.
- Children should be equipped with practical skills and knowledge along with education to enable them to use that knowledge to live their lives and be entrepreneurs.
- Capacity building programs are required in order to reduce the vulnerability of people to disasters.
- Technical and institutional capacity of urban local government bodies should be strengthened.
- The House Building Research Institute can train brick workers and others involved in the construction process regarding saline and climate-resilient technologies.

6. Creating Database on Migrants

- Steps must be taken to ensure adequate and appropriate data is generated.
- The municipalities need to be disintegrated and we need to develop a census for both the slum and non-slum people for better services.
- Establish a national tracking mechanism for displaced and migrated people.
- A list should be made for poor people who are vulnerable according to their income.
- effort on collecting data on push and pull factors should be given more importance
- An independent investigation body should account for people coming to the city as climate refugees

7. Urban Health

- Health sector improvements need a holistic effort with the government and the private sector.
- Sustainable urban health system requires the municipalities to have a sense of ownership, local governments should be incorporated into the system to ensure a smooth run of the system.
- Healthcare should be distributed equitably, also leadership should be promoted in the health system
- Psychosocial services should be provided to the migrants forced to displace, to ease their transition into the destination
- Government and Private health care system needs to be monitored and should be brought under a regulatory scheme to ensure proper health care facilities.
- Monitoring the doctors is crucial to ensure their accountability to provide better health services
- The Upazilla, the Municipality, the Civil Surgeon, and the Management Committee should raise health awareness and work towards increasing the capacity of local health services.

8. Housing facility

- Migrants should be provided with proper housing facilities in a designated area on the outskirts of Dhaka city in a planned way.
- Develop safe schools and colleges with dormitories to which students, especially girls, can move.

- Develop an integrated, holistic and risk-free city plan of action, and include the urban poor and their living places as a part of equal happy city life.
- Vertical housing for the urban poor as an alternative to horizontal slum expansion to better utilize space
- The private sector and the Municipality should work on student accommodation and hostels especially for attracting girls to come for education.
- Micro-credit facilities can also be initiated in this sector for low-income group housing.
- Building codes need improvements and also better enforcement before any construction.

9. Waste Management Mechanism

- Source segregation of waste in our daily lives; polluter tax to reduce carbon footprints; and adoption of the Reduce-Reuse-Recycle (3R) strategy is needed to manage waste properly.
- A simplified low-cost infrastructure is needed to make effluent treatment affordable.
- A low-cost system focusing on microbial breakdown will be compliant to SDGs goals 6 and 13.
- Exploring alternative reusable waste is the way forward.
- A municipality should have better accountability of the government regarding waste management.
- Partnerships between City Corporation, municipalities, the private sector, and the public sector have to be scaled up for waste resource management.
- The Government should provide fallow land for dumping waste to the City Corporation, which may be helpful to protect our environment.
- Policy & regulatory compliance, social and cultural due diligence, environmental compliance and institutional capacity development should be ensured to bolster WtE technology.

10. Water Supply and Tariffs

- Community water services need immediate attention.
- Nature-based solution and landscape-based adaptation needs to sustainably store rainwater
- Stigma to reuse treated wastewater has to be worked on to ensure the quality of the treated water.
- Certain policy regulations and support from the private sector is required for mainstreaming managed Aquifer Recharge (MAR) technique
- Some effective ways of water usage in the urban structure include water-efficient buildings, harvest and reuse of rainwater, natural wastewater treatment plant and reuse of grey wastewater
- MAR could be an alternative solution to water scarcity although design improvements are still required
- Different technologies should be incorporated for a better solution (for ex- MAR with some other technique)
- Understanding and taking initiatives for tackling the issue of water crisis should come from the people themselves rather than depending on the government
- The Municipality and DPHE should improve and expand the water treatment plant, water management, pond excavation, and preservation.
- People should be made aware of the successful examples of using rainwater harvesting system

11. Provision of Education

- Scholarships could be a way to incentivize young people from coastal areas to come and study in secondary towns, increasing their familiarity with the place.
- Education has to be made enjoyable to prevent school dropouts.
- Street children need to have access to basic and better education so that they can take the lead to create a better world.
- Quality education is important to ensure migration with preference.
- The Upazilla Education Office, the School Management Committee and the Municipality should arrange a number of teachers training for better subject wise teaching and accountability of their teaching activity.

12. Youth

- Youths have to be educated and capacitated to develop their capital assets
- The youth will need to be empowered with awareness, knowledge on urban climate change and making cities climate resilient.

13. Kids and Street Children

- Having a jamboree with street children on climate change topics could be the first step to raise awareness on the need to become a resilient individual.
- Research on climate-vulnerable street children needs to be conducted.
- A government department working especially for and with underprivileged street children should be considered.
- Engage kids in outdoor activities to allow them to socialize beyond smartphones and video games.
- Young girls should be able to claim themselves as climate champions in the future if they are equipped with proper education and skills development training.

14. Women Empowerment in Urban Resilience to Climate Change

- To empower women especially elderly women GOs and NGOs should invest in infrastructure development, local initiatives and income-generating activities
- Policies and practices should actively consider gender-differentiated needs and requirements of different socially excluded groups, particularly women
- Urban resilience should put substantial emphasis on socioeconomic elements, such as gender disparities during infrastructural development

15. Access to ICT

- Investments in human capital and ICT should be ensured for sustainable urban development.
- Adopt mobile app tracking and Driver Identification Systems to enhance EV operation and to track vehicles and drivers.

16. Financing for Urban Resilience

- Investments should be largely driven by national actors, both from the public and private sector, without over-reliance on donor support.
- Create a *Corporate Social Responsibilities Fund* where all of the corporate offices needed to be engaged.
- Investment is needed in both human and physical domains to make these towns both “climate-resilient” and “migrant-friendly”.

17. Green Economy and Natural Resource

- For inclusive green growth micro-enterprises multi-stakeholder engagement, local political leadership and policy liberalization is needed.
- Economic and existence value of natural resources (e.g. Sundarbans) has to be considered in development planning when asking people to move.

18. Multi-Stakeholder Collaboration

- NGOs and communities should collaboratively work together while avoiding beneficiary overlap.
- Professional planners and other experts should work collaboratively with MAB and other organizations (government, non-government, and NGOs) as per local action plans with their proper reflections on the master plan, strategic plan, and 5-year-plans.
- There should be proper accountability and better coordination among the various authorities and sectors.
- Capacity Building on proper technical support and development of a data management system requires an effective planning strategy.

- A synergy between NGOs, private organizations and research institutes is needed to ensure innovative and effective methods for development. Effective coordination among the donors and NGOs is necessary

19. Awareness Campaign

- Running an anti-pollution campaign on college and university campuses, as well as placing polythene dustbins all over the cities.
- Making stakeholders and actors aware of the UN Declaration on Human Rights of climate displaced people

20. Urban Disaster Management

- There should be a government platform focusing solely on urban disaster needs assessment, and also effective response and recovery.
- Different policies are needed for disaster management for urban and rural areas.
- In disaster management, the different ministries should have a consensus for working together.
- The Disaster Management sector should be given higher priority and should have quick access to vital information necessary during a disaster event.

7.3 Suggested Actions for building migrant friendly climate resilient cities and towns

Action	Implementing Agency (s)	Indicator (s)	Expected Outcome
Climate-resilient, migrant-friendly urban development	Central Government; City Corporation Municipalities	<ul style="list-style-type: none"> ● Service provision and infrastructure development, ● Equal emphasis given towards social development, particularly the empowerment of socially excluded groups ● Public-Private Partnership (PPP) 	<ul style="list-style-type: none"> ● Full dissemination of information ● Central government acting as anchor in bringing all the actors on the same platform ● Planned Migration in number of municipalities ● Enhanced resilience and livability in secondary cities and towns
National Policies	Central Government	<ul style="list-style-type: none"> ● Policies and guideline are using urban development actors and stakeholder ● SDG goal 11 and climate resilient guidelines are incorporated into urban sector policy 	<ul style="list-style-type: none"> ● The issue of urban resilience and planned migration incorporated into the Bangladesh Climate Change Strategy and Action Plan (BCCSAP) and the Five-Year Plan ● Approved National Urban Sector Policy
Decentralization of Urbanization	Central Government; Local Government and Private Sector	<ul style="list-style-type: none"> ● Access to government facilities, opportunities and basic amenities in secondary cities and municipalities ● Employment opportunities ● Local market development 	<ul style="list-style-type: none"> ● Government facilities, opportunities and basic amenities available in secondary cities and municipalities ● Employment opportunities created ● Developed cities for all
Municipality Level Interventions	Local Government and Private Sector Municipalities	<ul style="list-style-type: none"> ● Municipality discourse puts greater focus on Education, Health, Housing, water and other facilities local 	<ul style="list-style-type: none"> ● Quality education, quality health and housing facilities ensured in municipalities ● Developed Sustainable and affordable Cities for all

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		government incorporating SDGs in their work	
Capacity Building on Urban Resilience	Government Agencies; City Corporations and Municipalities; Private Sector Research and Academic Institutions	<ul style="list-style-type: none"> ● Developed training modules and materials ● Provided training for capacity building ● training lessons shared to wider community 	<ul style="list-style-type: none"> ● Enhanced knowledge and skills of Government officials, planners, urban practitioners, and NGOs and local communities. ● Enhanced institutional capacities ● Practiced urban resilience initiatives.
Database on Migrants	Department of Social Services; Bangladesh Bureau of Statistics; City Corporation and Municipalities	<ul style="list-style-type: none"> ● Establish a national tracking mechanism for displaced and migrated people with cases of migration ● Disintegrated data updated regularly for both slam and non-slam people ● Access to data for all 	<ul style="list-style-type: none"> ● Available long-term database on Migrants and urban planning for relevant stakeholders and practitioners ● Relevant government departments, city corporation and municipalities update data regularly
Urban Health	Department of Public Health & Engineering (DPHE), Public and Private Health Institutions, NGOs	<ul style="list-style-type: none"> ● Access to health facilities and service available for all ● Reduced disease rate 	<ul style="list-style-type: none"> ● Established adequate health facility and support services for urban poor communities including slum dwellers ● Less incidence of transmissible disease outbreaks in the densely populated urban centers ● Good health practices are widespread.
Housing Facility	Government Agencies; City Corporations and Municipalities	<ul style="list-style-type: none"> ● Building codes enforced ● Access to housing facilities for urban poor ● Better Land Use Management 	<ul style="list-style-type: none"> ● Vertical housing over horizontal expansion of informal settlements
Waste Management Mechanisms	Central government; Government Service Providers; Local Community; City Corporation, municipalities, the private sector, and the public sector	<ul style="list-style-type: none"> ● Functioning source segregation of waste ● Adoption of the Reduce-Reuse-Recycle (3R) strategy with low cost infrastructure support to manage waste properly ● Waste collection and dispose properly 	<ul style="list-style-type: none"> ● Reduction in drain clogs ● Increased waste recycling ● People will enjoy a cleaner and healthier city. ● Enhanced the partnerships between public and the private sectors
Water Supply and Tariffs	DPHE, Water Supply Authority and local government institutions	<ul style="list-style-type: none"> ● Quality water supply available at city and towns ● Efficiency of water treatment plants ● Progressive water tariff system available and regularly update through monitoring 	<ul style="list-style-type: none"> ● Access to quality water for all ● Different technologies incorporated for a better solution ● Sustainable progressive tariff system practiced at urban centers which are financially viable and socially acceptable

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Provision of Education	Education Ministry, NGOs, Private sector	<ul style="list-style-type: none"> ● Access to education for all especially poor migrant communities ● Available job-oriented education curriculum and teaching methods 	<ul style="list-style-type: none"> ● Enhanced access to job and self-sustenance; ● Increased livelihood and wellbeing of individual ● Increased quality education
Youth Engagement	Central Government, Cities and Municipalities, Academic Institutions, Private, NGOs and Communities	<ul style="list-style-type: none"> ● Access to youth engagement in leadership for urban resilience programs ● Curriculums available focusing on youth leadership skills 	<ul style="list-style-type: none"> ● Enhanced youth leadership and capacity on urban resilience to climate change ● Youths are actively participating in urban development program
Kids and Street Children	Central Government, Local Government, Private Sector, NGOs	<ul style="list-style-type: none"> ● Engagement of public and private organization with underprivileged street children ● Access to education specially girls 	<ul style="list-style-type: none"> ● Awareness raising regarding climate change vulnerability ● Engagement of kids in outdoor activities rather than socialize beyond smartphones and video games ● Young climate champions with proper education and skills
Women Empowerment in Urban Resilience to Climate Change	Central Government, Local Government, Private Sector, NGOs, CBOs and Local community and Media	<ul style="list-style-type: none"> ● Number of women involvements in awareness raising and leadership training and activities ● Economic opportunities available for women ● Access to women participation across all levels of development activities and decision-making programs 	<ul style="list-style-type: none"> ● Women's voices and their needs are addressed in decisions making process or project and program implementation on urban resilience to climate change ● Increased women leadership capacity
Access to Information and Communication Technology (ICT)	Ministry of Science and Technology; ICT division, Scientists and Researchers	<ul style="list-style-type: none"> ● Technology is affordable and accessible for all. ● Climate change affected people using ICT for migration. 	<ul style="list-style-type: none"> ● Enhanced knowledge of ICT for climate change affected communities and urban practitioners ● Climate vulnerable people using ICT for migration into cities
Financing for Urban Resilience	Relevant Ministry, City Corporations and Municipalities, Private Financial Institutions	<ul style="list-style-type: none"> ● Access to fund to cities and municipalities ● Allocation of budget according to need and resources ● Alternative funding options from external sources has to be identified. 	<ul style="list-style-type: none"> ● Developed infrastructure of climate resilient and migrant friendly cities and towns ● Private fund available to improve housing for urban poor, create job and business opportunities and other basic needs and services
Green Economy and Natural Resource	Public and Private Sectors	<ul style="list-style-type: none"> ● Economic and existence value of Natural resources 	<ul style="list-style-type: none"> ● Economic value increase ● Natural resource is considered in development interventions

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		<ul style="list-style-type: none"> ● Engagement of micro-enterprises with local authorities 	<ul style="list-style-type: none"> ● Built Public and Private partnership
Multi-Stakeholder Collaboration	Central Government, Local Government, Private Sector, Donor, NGOs, CBOs, community and Media	<ul style="list-style-type: none"> ● Adequate collaboration and coordination for implementing projects and providing services ● Availability of appropriate services to community people 	<ul style="list-style-type: none"> ● Enhanced multi-stakeholder collaboration on building migrant friendly climate resilient cities and town
Creating Awareness	Government Agencies; City Corporations and Municipalities; Private Sector; Research and Academic Institutions; NGOs; Media	<ul style="list-style-type: none"> ● Level of awareness ● Access to awareness programme ● Understanding awareness materials 	<ul style="list-style-type: none"> ● Inclusive programs and opportunities available ● Stakeholders awareness raised on UN Declaration on Human Rights of Climate displaced people ● A very diversified awareness program for women, children, disabled and transgender group is promoted on anti-pollution
Urban Disaster Management	Government Agencies; City Corporations and Municipalities; Private Sector; NGOs and Media	<ul style="list-style-type: none"> ● Effectiveness of response and recovery on urban disaster management ● Policies regarding disaster management in rural and urban area ● Accessibility to vital information necessary during a disaster event. 	<ul style="list-style-type: none"> ● Reduce damage ● Practice DRR framework, Standing Order on Disaster and Strategies ● Reduced disaster risk of all stakeholders in cities and towns



Organizing team of the Fourth Annual National Conference on Urban Resilience to Climate Change

8. Annex: Daily List of Participants

List of Participants		
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AC	Dr M.M Mayedul Islam	2
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AFS	ABM Touhidul Alam	5
AKF	MD. Zakir Hossain	6
Ahsania Mission	Md. Moinul Islam	7
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AF	Rahat	3
AF	Md Rabbi sardar	4
AF	Safiul Alam	5
AF	Md Aftabuzzaman	6
AFD	Ratul Islam	7
AOSET	MD Jalal Uddin	8
ARDI	Acrh Sumon	9
ARDI	Laila Parvin	10
AUB	Sharmin	11
AUB	Mohammad Golam Muktadir	12
BARCIK	Gopal Kumar Das	13
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BCAS	MD. Belayet Hossain	25
BCC	Mohammad Anisujjaman	26
BCC	Mohd Israil Hossain	27
BIP	Prof. Akm Abdul kalam	28
BOSC	Hosne Ara Rafeza	29
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Ahsania Mission	Moinul Islam	3
APO	Afnan Mohammad	4
ARDL	Samsun Nahar	5
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