

# South Asia Regional Resilience Hub- COP 28

RESILIENCE  
HUB

Organized By ICCCAD



**ICCCAD**

International Centre for  
Climate Change and  
Development

October 8<sup>th</sup> –14<sup>th</sup> 2023

Edited by : Fateen Fateh



Picture captures a moment from a session hosted by the CGIAR Initiative on Asian Mega-Deltas

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# Background

COP26 saw the rise of attention to adaptation and resilience in a way not seen before. The adaptation and resilience agenda was further elevated through the launch of the Sharm-El-Sheikh Adaptation Agenda in partnership with the High-Level Champions and the Marrakech Partnership, providing for the first time a global plan to rally State and non-State actors behind a shared set of 30 Adaptation Outcomes to be achieved by 2030.

The vision for the Resilience Hub is to be a significant force in catalyzing climate-just action and increasing finance on resilience through an inclusive and dynamic space that it fosters at and between COPs, uniting and motivating actors from across different sectors, scales, and geographies. Its particular focus will be to broaden and deepen the engagement of non-state actors in resilience actions as home to the Race to Resilience Campaign and in line with the 2030 Agenda.

The respective Regional Resilience Hubs (RegHubs) play a crucial role in delivering the overarching vision for the Resilience Hub by ensuring the voices and perspectives of the most vulnerable and climate affected are amplified and increasingly drive the global resilience agenda in the next ten years. The respective RegHubs are envisioned to play a centralising role in elucidating and communicating regional priorities, actions, solutions and challenges to be amplified onto a global stage. This year, Regional Resilience Hubs will have a major role in participating from the onset in the programming of the overall Resilience Hub at COP28.

The South Asia Resilience Hub is organized by the [International Centre for Climate Change and Development ICCCAD](#) , will continue to lead the R2R process for South Asia region. Information on our previous [South Asia Regional Resilience hub](#).

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# Key messages of the Previous Years South Asia Regional Hub at COP 27

1. When communities build from within, their collective capabilities improve and the nature of their relationship with the outside changes.
2. Preparedness starts long before a crisis and hence building organizational resilience long before can reduce loss and damage.
3. Strategic finance can transform existing structures and relationships, redistribute power amongst local actors and keep the community at the heart of their own development.

Key Card Link:

[https://drive.google.com/file/d/1YDX1b8h4hO0w\\_uHb0eYhWrqumy019W5n/view?usp=drive\\_link](https://drive.google.com/file/d/1YDX1b8h4hO0w_uHb0eYhWrqumy019W5n/view?usp=drive_link)

# Program Overview

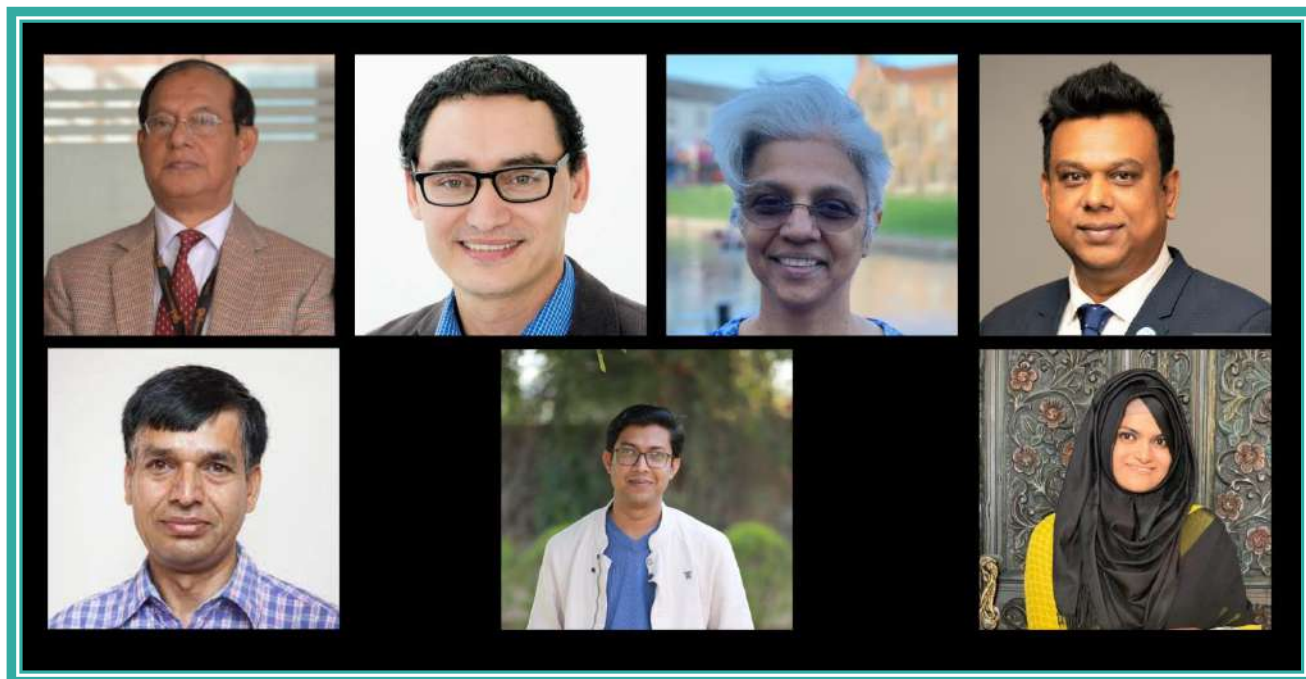
<b>Day 01: Sunday-October 08</b>	
4:00pm-6:00pm (GMT+6)	Inaugural Session
<b>Day 02: Monday-October 09</b>	
11:00am-1:00pm (GMT+6)	Concern Worldwide: Forecast based Early Action to Minimize Flood-induced Impacts Among at-risk Communities
2:00pm-4:00pm (GMT+6)	UNCDF LoCAL: What's working on adaptation and how can we better learn from each other in South Asia?
4:00pm-6:00pm (GMT+6)	Microsave Consulting and GSMA: Building climate resilience through FinTechs
<b>Day 03: Tuesday-October 10</b>	
2:00pm-4:00pm (GMT+6)	United Nations Development Programme (UNDP) Adaptation Fund Climate Innovation Accelerator (AFCIA/ISGAP): When risks emerge, innovative solutions come into place: the stories of local champions in Nepal, India, and Bangladesh
4:00pm-6:00pm (GMT+6)	Manusher Jonno Foundation (MJF): Women and Water: Gendered Impact of climate change
6:00pm-8:00pm (GMT+6)	Institute of Development Studies, University of Sussex (UK): WASH and Climate Justice in South Asia
<b>Day 04: Wednesday-October 11</b>	
11:00am-1:00pm (GMT+6)	Universal Versatile Society (India) Nisarg Foundation (India): Unmask the power of women and youth in green transition for a more sustainable and traceable agrifood transformation system in the Asia-Pacific region
2:00pm-4:00pm (GMT+6)	Sajida Foundation: Exploring Social Resilience through Ethnographic Research
4:00pm-6:00pm (GMT+6)	International Rice Research Institute (IRRI), International Maize and Wheat Improvement Centre (CIMMYT) World Fish Centre (WorldFish) International Water Management Institute (IWMI) International Potato Centre (CIP): Securing the Food and Agriculture System of Asian Mega Deltas for Climate and Livelihoods Resilience
6:00pm-8:00pm (GMT+6)	ActionAid Bangladesh: The Next Generation of Farmers: Youth Leading the Way in Agroecology
4:00pm-6:00pm (GMT+6)	Christian Commission for Development in Bangladesh – CCDB & Bangladesh Wheat and Maize Research Institute: Building Climate Resilience: Agriculture and Food Security in Bangladesh
6:00pm-8:00pm (GMT+6)	Bangladesh Agriculture University: Climate change adaptation and mitigation through improved agricultural practices
<b>Day 05: Thursday-October 12</b>	
9:00am-11:00am (GMT+6)	KIRDARC: Stories from ground and communities suffering from Loss Damage in Mountains and Lowlands of the Global South
11:00am-1:00pm (GMT+6)	AYE!forCOP: Building Resilience through Youth Empowerment: Fusing Asian Youth Potential with COP28 Resilience Goals
2:00pm-4:00pm (GMT+6)	Miyamoto International: Global to local: Best practices in humanitarian action, DRR and capacity development

4:00pm-6:00pm (GMT+6)	Institute of Development Studies: Preparing for Climate Extremes- Lessons on Adaptation from South Asia	
<b>Day 06: Friday-October 13</b>		
11:00am-1:00pm (GMT+6)	Friendship, HBRI: From Vulnerability to Resilience: Climate-Adaptive Housing Solutions for Coastal Communities	
4:00pm-6:00pm (GMT+6)	ICCCAD: Inclusive Urban Infrastructures	
6:00pm-8:00pm (GMT+6)	ICCCAD: Fueling Change: Youth Voices on Sustainable Energy, Infrastructure, and Mobility in South Asia	Eminate: What on Earth can we do about Climate Change?! - A Discussion with Youth on Climate and Energy (Region: South Asia)
<b>Day 07: Saturday-October 14</b>		
11:00am-1:00pm (GMT+6)	Concern Worldwide: Transformation of a multi-sectoral livelihood program to a shock responsive, climate resilience program	
2:00pm-4:00pm (GMT+6)	UNICEF: Climate resilient, sustainable, safely managed sanitation in mega cities	
6:00pm-8:00pm (GMT+6)	<b>Closing Session</b>	



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## Inaugural session



### Moderator Speech Professor Mizan. R Khan

Dr. Mizan commenced the South Asia Regional Resilience Hub welcoming the distinguished guests and participants of the Inaugural Session. He shared the South Asian societal problems and challenges that currently exist in the South Asia where he mentioned about poverty and vulnerability to climate change for which it is a must to achieve resilience and adaptive capacity. He added that due to the geographical position of Bangladesh, it is connected to its neighboring country in a way that all the country can work together in an integrated way.

### First Speaker Professor Dr. Shailaja Fennel

Professor fennel is the director of the Center of South Asian Studied working as a land economist and has been working on the theme of resilience for the last three years. In her session, she shared an ongoing research of her after recalling the words of Dr. Mizan that unless the communities are brought into picture and their knowledge are valued enough, it will be difficult to talk about Economic Security without which economic resilience or social resilience will not be achieved. In the climate change perspective, rural communities especially communities in the hills and mountains are suffered mostly from the heat



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and drought which are often ignored and thus we go work for food and water security. Despite there is a great water resource people get from the Ganges and the Brahmaputra, problems related with temperature increase still persists. However, there are huge water stress in the Hindu Kush region, an area where Professor Fennel has been working on and now she is focusing on two specific areas one in relation to water security and the other in relation with the biodiversity and both the sectors are an integral part to each other since we cannot have enough biodiversity if we do not have enough food and water security.

Professor Fennel showed and discussed on study where scientist are working on communities in the Himalayan regions and on two glaciers in the upper Alaknanda region of India where she described that the glaciers are shrinking and it is difficult for the scientists to understand why they are shrinking and what is the spatial dimensions of the shrinkage. However, they have also created a glacial inventory but the main significance lie on their next step where Professor Fennel hopes that the next step they will work with the surrounding communities to recognize the same glacier related problems on the community's perspectives. Thus it would be valuable to validate the glacier data found from studies and also from the satellite data source by relating with the data found by using social science methods or in other words validating with the data derived from the community to see how they see the changes.

Taking forward the Nature based Solutions (NbS): In south Asia, there are numbers of countries that are working in the field of NbS. There are large number of national programs carried by Nepal, India, Pakistan and Bangladesh all have different kinds of programs to advance NbS and thus we need to work beyond boundaries because weather or not there are communities in any side of a boundary, the water supplies crosses that boundary and becomes the same source of resource for everyone. In addition, doing so, we need modelling approaches that could model the human behavior which is the behavior in the natural world to understand who talks to whom for instance which farmer talks to which farmer etc. Here, social hydrologist can play a pivotal role in looking across on these spatial scales of social modelling.

Water security in Ramsar Sites: Professor Fennel mentioned about the Ramsar sites. These sites are biodiversity wetland sites which are also facing water security problems from 1980 till 2004. Thus it is necessary to understand these water related problems in South Asia that produces cross border issues and these are necessary to address in the wetlands like the Ramsar sites as well. Thus for addressing the resilience in South Asia, solving water system issues and food security we need to follow a multi-scalar complex way of approach which will require a neural network analysis in the social frame as well as by including the hydrological and ecological natural frame as well.

## Second Speaker S.M. Mehedi Ahsan

Mr. Mehedi emphasized the work of Global Center of Adaptation. The Global Center on Adaptation is a center of excellence where individuals work as solution brokers with the goals of accelerating global actions for climate adaptation solutions, both on the international and local levels, with sufficient partnerships with the government, the private sector, and civil society to ensure when to learn from one another and collaborate. GCA began implementing their program in Bangladesh in many areas, with its initial key pillars concentrating on locally led adaptation, nature-based solutions, urban, water, and infrastructure, as well as climate financing. As the British High Commission has consistently supported them, the GCA's goals have expanded, and they are now concentrating on the most vulnerable communities in order to foster local leadership, make more efficient investments, and employ strong employment and capacity building. GCA, or global climate assistance, intends to offer technical support in three key areas, including climatic analysis, creating adaptation solutions, and capacity development.

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Additionally, Mehedi Hasan (GCA) indicated that they would keep working with ICCCAD and asked for clarification of the organization's goals as well as further planning about the South Asian Regional Hub and how they intended to operate this hub moving forward.

### Third Speaker Dr. Jubaer Rashid

Dr. Jubaer Rashid ICLEI is an NGO that unites local governments to promote sustainability. It now has five development pathways, including low-emission development, development based on nature, development that is equitable and people-centered, resilient development, and circular development. Despite the fact that since 2010, approximately 20 cities have been included in various programs, the latest plans call for the establishment of two distinct climate action plans by the end of this year in the Dhaka South City Corporation and the Dhaka North City Corporation just as similar to Rajshahi and Narayanganj.

Dr. Jubayer Rashid pointed out that there are important differences between decision-makers at the local and national levels. Local municipal authorities and local agencies are not aware of the national objectives when dealing with them, thus ICLEI aims to close these gaps and acknowledges those gaps as serious problems.

### Fourth speaker by Raju Pandit Chhetri

Mr. Raju Pandit lists some of the important initiatives of the Nepalese government for mitigating the effects of climate change on that nation, which is geographically a crucial one in South Asia and is now dealing with severe impacts including landslides and glacier melting from the Himalayas. The Nepalese government has been working to include resilience-building exercises into its planning procedures and to create its own strategies for adapting to lessons learned in the past. Not only at the national level, but also at the subnational and provincial levels, these plans must be implemented.

Raju stated that resilience cannot be considered in isolation in the context of Nepal. Furthermore, understanding the sustainable development agenda requires that the measures accomplish their objectives. Pandit Cherry, on the other hand, believes that developing resilience on the ground is exceedingly challenging when addressing resilience from a single country's viewpoint because Nepal is a small country with highly diverse features. Nonetheless, Nepal is attempting to improve social inclusion by addressing indigenous peoples' difficulties, gender-based roles, and disadvantaged populations' challenges. This is something Nepal can share with other countries and on a global scale.

Raju Pandit Cherry concentrated on regional cooperation, noting that Bangladesh is a low-lying country, unlike landlocked and mountainous Nepal, and these cross-border elements should be taken into account and given equal weight in national planning. The South Asian Regional Resilience Hub can or is already working toward this goal. Governmental and nonprofit organizations can benefit from learning from cross-boundary elements while developing their capacities and forming partnerships with local people with whom they deal with. The South Asian nations' national and local economic development will require fewer resources as a result of these regional cooperation initiatives that take into account cross-border elements.

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## Fifth Speaker Dr. Surendra Raj Joshi

Mr. Joshi gave a brief introduction to the International Centre for Integrated Mountain Development (ICIMOD) and shared their most recent publications on a landmark assessment of the Hindu Kush Himalaya Assessment as well as on the water, ice, society, and ecosystem in the same region, which stretches from Afghanistan to Myanmar. In the two pieces, Mr. Joshi explained how cascading climate change consequences are taking place and why resilience is essential. DRR, adaptation, resilience, and sustainability, according to the ICIMOD panelists, need to be examined holistically. Correct DRR and adaptation interventions will result in proper resilience, and the stronger the resilience, the greater the likelihood of sustainability.

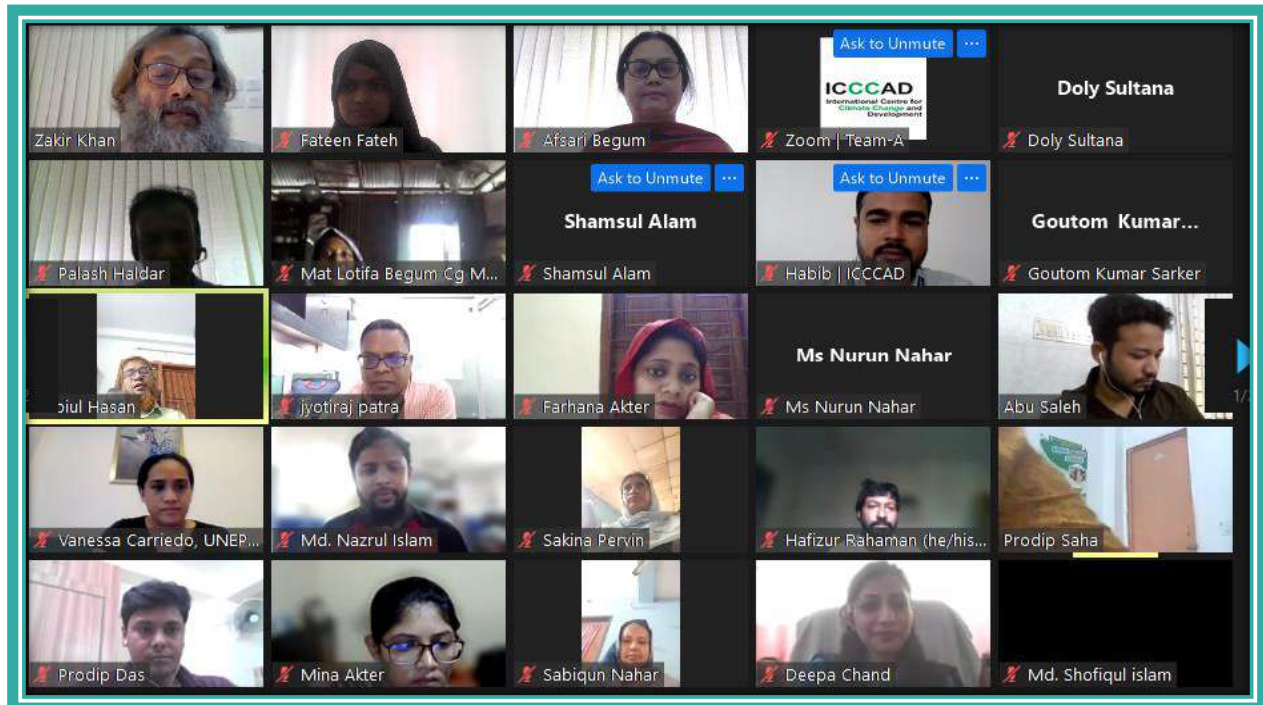
In order to achieve sustainability in the researched region of Nepal, a variety of issues at the transboundary (regional), sub-national, and local levels must be taken into account. Here, Mr. Joshi gave the example of his organization, ICIMOD's Living Mountain Lab, which was built on 30 hectares and is where more than 90 simple and inexpensive technologies (a basket of technologies) were created and put into use. These technologies are then given to the farmers and the local communities so that they can benefit from them. Furthermore, the goal is to create co-benefits for both nature and people with the invented simple solutions.

Mr. Joshi finished his speech by stating three fundamental goal that still needs to be achieved, one is to address climate and environmental risks that do not recognize political boundaries and thus countries need to come up together to address these risks, second is to promote green economy paths that would lead to sustainability and also to bring those green economy practices into a holistic management and third is harnessing multiple power from multiple countries or collaborating with other countries like linking countries like Bangladesh and Nepal so that a collective approach can be generated to raise collective voice to the global platforms.

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# **Finance and Investment**

## Forecast based early Action to minimize Flood induced impacts among at-risk communities



**Rapporteur name:** Md.Rakibul Islam

**Organization:** Concern Worldwide

### **Speakers:**

1. Manish, Country Director, Concern Worldwide.
2. Afsari Begum, Programme Manager, Concern Worldwide
3. Ms. Lotifa Begum-Community Group Member
4. Mr. Md, Robiul Hassan, UP Secretary and UDMC member, Saghata UP, Gaibandha.
5. Md. Faisal Azam, District Fisheries Officer (DFO), Gaibandha

### **Speaker 1: Manish**

Manish emphasizes the importance of having localized early warning systems. He believes that while there has been progress in early warning systems, the key is taking timely and effective actions based on these warnings. Manish suggests that action needs to be as localized as possible to ensure that communities and local governments can respond effectively to disasters like floods. Manish highlights the challenge of resource allocation for disaster management, especially at the community level. He suggests that more financial resources should be allocated to local governments and disaster management committees. Additionally, Manish encourages exploring innovative climate finance options to support

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early actions. This includes learning from international examples and encouraging the government of Bangladesh to pursue such financial options. Manish's overarching goal is to reduce the impact of floods and long-term climate change on vulnerable communities. He stresses the need for clear triggers for action and how they need to be supported by adequate financial resources. Manish hopes that the discussions in the session will provide insight into forecast-based early warning and actionable steps, with a focus on how to finance these actions effectively.

### **Speaker 2: Afsari Begum**

Afsari emphasized the significance of forecast-based identification in disaster management, specifically focusing on floods and cyclones. Communities benefit from early action taken based on accurate forecasts. It's crucial to have high-quality forecasts, timely dissemination, and accurate risk assessment. She highlighted the three essential components of early actions, forecasts and early warnings, detection, and financial mechanisms. These components work together to enable communities to take actions before disasters occur, reducing their impacts. Afsari stressed that financing is a crucial intervention for anticipatory actions. Pre-arranged financing is essential to ensure that communities and local institutions can act upon forecasts effectively. It's not enough to have good forecasts; financial resources need to be readily available.

### **Speaker 3: Latifa Begum**

According to Latifa Begum, she is part of a community group that includes farmer, female and youth subgroups. Through early access to news and forecasts related to floods and resilience, these community groups have gained significant benefits. They can now proactively manage food resources, provide vaccines for domestic animals, create silage for cows, and store crops and vegetables in advance based on forecasted information. This empowerment reflects the community's improved ability to mitigate the impacts of floods. The local fishermen in the area have become more cautious and proactive due to early flood forecasts. As a result, they can sell their catches earlier, ensuring economic stability. This economic advantage highlights how forecast-based early actions not only enhance resilience but also positively impact livelihoods. The ability to prepare for flood-related disasters in advance, thanks to early forecasts, has several advantages. Communities can take action to minimize damage, protect their resources, and mitigate the potential impacts of floods. Additionally, the early actions result in cost savings, as they can respond to disasters efficiently without incurring unexpected expenses. Latifa's views stress the importance of timely information in building resilience and preparedness among at risk communities.

### **Speaker 4: Rabiul Hasan**

A yearly plan is established to ensure effective disaster management within the community. They seek decisions, initiatives, and recommendations from "Concern Worldwide" to enhance their disaster preparedness. A detailed plan is created, outlining what actions to take and what to avoid in disaster situations. The Union Parishad chairman provides crucial support to the local community in implementing their disaster management plan. They react promptly upon receiving weather forecasts and voice messages, indicating a proactive approach to disaster preparedness. They employ methods



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like "miking" to raise awareness among local residents about disaster preparedness and response. The community is now better defended against local threats, such as robbers, with the assistance of the Union Parishad chairman. Adequate shelter arrangements are made in anticipation of floods, ensuring the safety of community members during such events.

### **Speaker 5: Faisal Azam**

Faisal Azam emphasized the significance of voice message forecasts as a crucial tool. These forecasts are instrumental in helping the local community prepare for impending floods, enabling them to minimize potential losses. Fishermen and fish producers in Gaibandha have adopted protective measures, including using nets and raising the surroundings of fish ponds to safeguard their fish production during floods. These measures aim to reduce economic losses. An important aspect of their approach is actively disseminating flood forecasts among grassroots communities. However, due to limited manpower, this dissemination is likely a key challenge. This effort helps ensure that the entire community is informed and prepared to take early actions based on the forecasts.

### **Three key takeaways from the end of the session**

1. Throughout the session, a recurring theme was the importance of collaboration and localized actions in disaster management. Local communities, government bodies, and organizations like "Concern Worldwide" work together to create and execute disaster management plans. These plans are tailored to the specific needs of the community, ensuring timely responses to forecasts and early actions.
2. A significant challenge identified is the allocation of sufficient financial resources to support forecast-based early actions. Adequate financing is essential to enable communities and local institutions to act swiftly upon accurate forecasts. This includes having pre-arranged financing readily available to respond effectively.
3. Empowering communities with timely information through forecasts, voice messages, and early warnings emerged as a key factor in building resilience. Access to such information allows communities to make informed decisions, mitigate disaster impacts, protect resources, and ultimately save on disaster-related costs. The session highlighted that information is a powerful tool in disaster management.

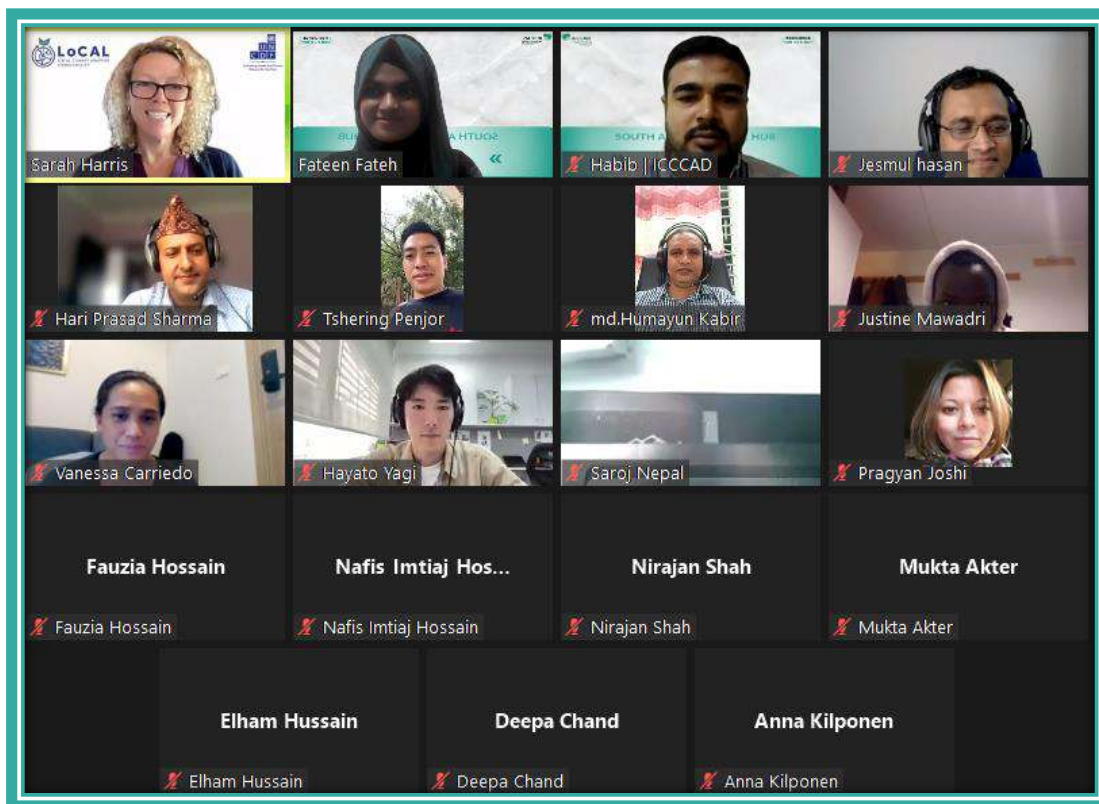


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## Session Summary

Manish highlights the importance of localized early warning systems and the need for timely, effective actions in response to forecasts. He emphasizes the challenge of resource allocation at the community level and encourages exploring innovative climate finance options. Manish's goal is to reduce the impact of floods and climate change on vulnerable communities. Afsari Begum underscores the significance of forecast-based identification in disaster management, particularly for floods and cyclones. High-quality forecasts, timely dissemination, and risk assessment are crucial. She emphasizes the importance of financial mechanisms to enable anticipatory actions. Latifa Begum shares the transformative impact of early access to news and forecasts on community groups. These groups can now proactively manage food resources, vaccines, and crops, benefiting their resilience. The local fishermen's increased caution and economic stability due to early forecasts highlight the broader advantages of forecast-based early actions. Robiul Hasan reveals the practical steps taken by the local community to ensure disaster preparedness. This includes yearly disaster management planning, collaboration with "Concern Worldwide," and extensive planning for disaster responses. Support from the Union Parishad chairman, community awareness initiatives, and protection against local threats and shelter preparedness demonstrate the community's proactive approach. Faisal Azam discusses the invaluable role of voice message forecasts in preparing for floods. Fishermen and fish producers adopt protective measures, and forecasts are actively spread among grassroots communities to enhance preparedness. The session underscores the importance of accurate forecasts, early actions, localized strategies, and adequate financing in building resilience against disasters. Community empowerment and proactive planning are central to minimizing the impacts of floods and cyclones. This comprehensive approach can lead to safer, more resilient communities in the face of environmental challenges.

## What's working on adaptation and how can we better learn from each other in South Asia?



**Rapporteur name:** Sarah Harris Simpson

**Organization:** UN Capital Development Fund, Local Climate Adaptive Living Facility (UNCDF-LoCAL)

### Speakers

1. Hari Prasad Sharma, Sector in Local Infrastructure Development, environment and Climate Change. Currently working in Ministry of Forest and Environment, Government of Nepal under Climate Change Management Division as a Senior Divisional Engineer (undersecretary)
2. Jesmul Hasan, UNCDF Programme Specialist, Bangladesh
3. Tshering Penjor, former UNCDF-LoCAL programme officer for Bhutan

### Speaker 1: Hari Prasad Sharma

Nepal is highly vulnerable to the impacts of climate change, with key issues: water, food security and impacts on agriculture. An estimated 1.5% of Nepal GDP is being lost each year as a result of the impacts of climate change. UNCDF LoCAL is presently at design phase in Nepal where Mr Sharma explained

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that local technologies and local community organisations would be the focus of activities. This, he said, would include building on existing efforts to incorporate Nature Based Solutions into adaptation projects and scaling up of community awareness raising efforts. Mr Sharma looks forward to working with other countries across the South Asia region to apply experience from across the region in LoCAL implementation in Nepal.

### **Speaker 2: Jesmul Hasan**

In Bangladesh, LoCAL is being implemented across three distinct regions – coastal, north east and the Chittagong Hills – each with distinct issues when it comes to addressing the impacts of climate change. Though impacts of climate change vary across the three regions, access to and management of water is a recurring theme of LoCAL interventions in Bangladesh. As a result of LoCAL interventions and with investment in capacity building and skills development, the 2022 National Adaptation Plan is being integrated into local government planning on a day-to-day basis and successfully localise the NAP process. Work on a Climate Vulnerability Index, undertaken with LoCAL, is being used to better inform adaptation planning at the local level, underscoring the need for investment in sound data to inform activities at the community level.

### **Speaker 3: Tshering Penjor**

LoCAL benefits from strong national, regional and local level ownership of the approach, where it has been implemented now for more than a decade. The 2007 Local Government Act of Bhutan, gives power and authority to decentralised bodies and elected representatives at the local level, enabling effective implementing of LoCAL at the community level. LoCAL builds on existing national systems, rather than setting up parallel approaches that might not align so well with community and regional priorities. Capacity building and mainstreaming efforts need to be maintained as staff in local governments change.

### **Three key takeaways from the end of the session**

1. While the impacts of climate change vary from region to region and even community to community across South Asia, adaptation efforts can be reinforced through shared learning and exchange of experience – particularly between countries at different phases of LoCAL implementation.
2. Data is a key to effective adaptation planning and implementation. Investment in good data and keeping this resource relevant and up to date is vital, as situations can change rapidly and policy documents can become out of date in a matter of just a few years. This underscores the importance of investing in capacity building so that local actors are better able to respond and adapt to a changing context.
3. While the LoCAL Facility brings together implementing countries at an annual LoCAL Board, there is interest and appetite in exploring more formal ways of bringing regional technical teams together for joint learning and exchange.

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## **Session Summary**

Across South Asia, the impacts of climate change are forcing communities to rethink livelihoods, traditions and re-assess their future prospects. In a growing number of communities facing divergent challenges, the Local Climate Adaptive Living Facility (LoCAL) is delivering results and helping communities to unlock solutions that meet their local needs within the context of the global climate crisis. Speakers from Bangladesh, Bhutan and Nepal shared real-world experience in implementing the LoCAL Facility and explored how to build on their experience to advance action on adaptation in the region.

## Building Climate Resilience through FinTechs



**Rapporteur name:** Partha Ghosh

**Organization:** GSMA and MSC

### Speakers

1. Ms. Akanksha Sharma, Head of ClimateTech and Digital Utilities, GSMA
2. Mr. Aarjan Dixit, Lead, Climate Change & Sustainability, MSC
3. Ms. Leila Guici, Insights and Advocacy Manager, GSMA
4. Mr. Monirul Hoque, Lead, Non-Life Insurance, BRAC Bangladesh
5. Mr. Partha Ghosh, Senior Manager, Climate Change & Sustainability, MSC and Mr. Vimal Panjwani, Founder, AgriVijay
6. Mr. Sarathy Srinivas, Head, International, WRMS

### Speaker 1: Ms. Akanksha Sharma

Ms. Akanksha Sharma emphasized in her presentation that it is important to build resilience, personally and within communities, in the face of challenges, especially climate change. Finance is crucial in addressing the climate crisis but its flow toward climate resilience is miniscule in comparison to the required amounts. Mobile and digital technologies have the potential to ensure that climate finance reaches vulnerable communities.

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**Speaker 2: Mr. Aarjan Dixit**

Climate change is complex and the slow onset events and small variabilities are often ignored. There is a need for localized and informed solutions to address varying impacts in different regions. There are numerous challenges that smallholder farmers face in accessing credit, savings, and insurance tailored to agriculture and climate resilience. There is a need for gender-focused financial products and services to address gender inequalities and enhance resilience.

**Speaker 3: Ms. Leila Guici**

In low and middle-income countries, challenges like lack of data, underdeveloped financial systems, and insufficient climate information make it difficult to access climate finance. Digital technology can address these issues by facilitating access to loans, grants, and the carbon market for vulnerable communities, as well as collecting data and enabling transparent and traceable systems. Six examples of types of digital technologies that can catalyse climate finance: low-tech solutions (such as USSD), mobile money for financial services, satellite imagery for crop monitoring, Blockchain, IoT for data collection and decision-making, Big Data (and AI/ML).

1. Examples of digital climate finance models: 1. Fintech for quick mobilization of funds and wider reach (including vulnerable communities), and can help users build a credit profile etc. 2. IoT in combination with PAYG for agriculture can help make agriculture input more affordable and collect information that can be used by financial service providers for access to credit and loans.
2. Digital technologies can collect gender-disaggregated data in tailoring climate finance products and services for women. The gender gap in mobile phone ownership and the lack of gender-responsive guidelines in climate finance can be significant challenges.
3. A report on this research is available for download here: <https://www.gsma.com/mobilefordevelopment/resources/digitally-enabled-climate-finance/>

**Speaker 4: Mr. Monirul Hoque**

BRAC Microfinance shifted its focus to insurance, introducing Weather Index Insurance and Area Index Insurance to cover risks for its clients, including farmers. It requires clients to pay premiums for insurance coverage, encouraging client understanding and engagement in insurance discussions. This has led to a 57% retention rate among clients who initially took insurance in early 2021, with 68% renewing their policies even without making claims. It integrates various value propositions into its offerings, such as solar irrigation, weather forecasts, and connections to markets and input suppliers. This holistic approach aims to reduce risks, lower premium rates, and scale up their initiatives while emphasizing the importance of offering the right product and value proposition for marginal farmers.

**Speaker 5: Mr. Partha Ghosh, Senior Manager**

AgriVijay enhances climate and financial resilience among smallholder farmers by providing renewable energy solutions, including biodigesters, to reduce energy costs and enable sustainable production, with the added benefit of organic manure production. It overcame logistical challenges through a village entrepreneurship model, ensuring localized distribution and reliable after-sales service. They partnered with an NBFC to offer financing options, reducing the financial burden on farmers and improving equipment accessibility. The company initially struggled to find financing partners, like banks, for renewable energy products but eventually partnered with an NBFC to provide loans for solar water



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pumps and bio-digesters. Many farmers, even those with limited resources, are motivated to repay these loans due to the substantial savings and income generated by renewable energy products like solar water pumps. AgriVijay offers a longer warranty period and financing with zero processing fees and zero interest, making these products more accessible to smallholder farmers. These products have proven to be cost-effective alternatives to traditional methods, such as diesel-powered pumps, for agriculture.

### **Speaker 6: Mr. Sarathy Srinivas**

Weather Risk Management Services (WRMS) empowers climate resilience for underserved communities, with a particular focus on small farmers, by offering risk management solutions to protect against climate shocks. It uses innovative technology, including parametric insurance, to manage assets worth over \$500 million and partners with financial service providers and insurers. They aggregate data from various sources, including satellites, remote sensing, government yield data, and global agencies. Collaboration among financial institutions, insurers, and renewable energy providers is essential to build strong ecosystems and make communities more climate-resilient. Key considerations in designing relevant and affordable insurance products for underserved communities include affordability, subsidy management, relevance, flexibility, timeliness, and awareness. These factors are crucial for creating viable and self-sustaining solutions for climate resilience.

### **Three key takeaways from the end of the session**

1. Building resilience will require a focus on both rapid onset events (cyclones, floods, heat waves, etc.) and slower onset events (changing patterns of monsoon, higher incidence of pests and vector-borne diseases, depletion of nutrients in food crops, sea level rise, changing salinity, etc.).
2. Financing is an important element for strengthening climate resilience. However, it is difficult to deliver meaningful and affordable financial solutions to low-income and vulnerable populations. Digital technologies have been able to reduce friction against the delivery and adoption of inclusive climate finance products by reducing the cost of transactions, minimizing credit risks for lenders, enhancing transparency, and increasing the speed of delivery, among others.
3. Financial services can play an important role in strengthening the climate resilience of smallholder farmers. The panellists representing AgriTech and Financial Services discussed a host of them including savings, pre-approved loans, weather-index-based insurance, and area yield-index-based insurance. Increased adoption of distributed renewable energy solutions can aid in climate change mitigation but also produce resilience co-benefits by helping increase smallholder farmer incomes.



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## Session Summary

In the introductory speech by Ms. Akanksha Sharma, Head of the Climate Tech Program at GSMA, delineated the following points:

- **Resilience and Climate Change:** Akanksha highlighted the importance of building resilience, personally and within communities, in the face of challenges, especially climate change. Resilience involves meeting basic needs, physical and mental health, financial security, and support systems.
- **Role of Climate Finance:** She emphasized that finance is crucial in addressing the climate crisis. She mentions that climate finance is often discussed at high-level events like COP (Conference of Parties) and the Africa Climate Summit but can be challenging to translate into practical action.
- **Digital Technologies:** She noted that mobile and digital technologies have the potential to ensure that climate finance reaches vulnerable communities. These technologies have been tested and can be leveraged effectively.
- **Collaborative Efforts:** Akanksha mentioned the ongoing efforts by GSMA, with support from organizations like the FCDO (Foreign Commonwealth and Development Office of the UK) and SIDA (Swedish International Development Cooperation Agency), to research and fund real-life examples of how climate finance can work in practice.
- **Agenda:** She outlined the agenda for the session, including presentations from MicroSave Consulting on the demand for financial services in vulnerable communities in Bangladesh and India, insights on the role of digital technology in climate finance, a panel discussion on increasing financing for climate resilience, and a Q&A session.
- **Handover to Aarjan Dixit:** She concludes by handing the discussion to Mr. Aarjan Dixit from MicroSave Consulting.

Following Akanksha's cue, Mr. [Aarjan Dixit](#) from MSC made a presentation from MSC's research to elicit the needs and perspectives of low-income households, particularly smallholder farmers to cope with the impacts of climate hazards. The summary of his presentation is as follows.

- **Introduction and context setting:** Arjan Dixit, a senior manager at MicroSave Consulting, introduces the session on the role of FinTechs in advancing climate resilience. He acknowledged the importance of financial inclusion in supporting climate resilience. He mentioned MicroSave Consulting's work in India and Bangladesh related to climate change impacts on vulnerable communities.
- **Impact of climate change on agricultural production systems:** Aarjan presented the significant impact of climate change on agriculture, especially in South Asia. He emphasized the complexities of climate change, including slow onset events and small variabilities. He elicited the need for localized and informed solutions to address varying impacts in different regions. He presented a seasonal calendar highlighting key points in the rice cultivation cycle and associated climate risks.

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- **Financial services and gender inclusivity:** After the first section, Aarjan discussed coping strategies that smallholder farmers adopt and their need for financial services. He highlighted the challenges smallholder farmers face in accessing credit, savings, and insurance tailored to agriculture and climate resilience. He provided insights into the importance of gender-focused financial products and services to address gender inequalities and enhance resilience.
  - Aarjan concluded his presentation by handing the presentation to Ms. Leila Guici, the Insights and Advocacy Manager at GSMA, to present their work in the field.

Ms. Leila Guici, the Insights and Advocacy Manager for the GSMA Climate Tech Program presented findings from GSMA’s work to support digital technologies in strengthening the climate resilience of poor and vulnerable communities, especially smallholder farmers.

- **GSMA’s work and findings:** Leila shared insights on digitally enabled climate finance during a presentation. She emphasized the global nature of their research, focusing on low and middle-income countries. These regions often face challenges like data scarcity, underdeveloped financial systems, and limited climate information, hindering access to climate finance. Digital technology can bridge these gaps, facilitating access to loans, grants, and transparent systems, and aiding vulnerable communities in accessing the carbon market.
- **Role of digital technologies in strengthening climate resilience:** Leila discussed six digital technologies that drive climate finance, including USSD and SMS for low-tech solutions, mobile money for financial services, and satellite imagery for monitoring. She highlighted the potential of IoT devices and pay-as-you-go systems, enabling data collection for informed decisions in agriculture. Fintech was also highlighted as a tool to mobilize funds rapidly, with digital technology playing a key role in providing personal advisory services and digital payments.
- **Role of digital technologies in bridging the gender gap:** Leila emphasized the importance of addressing gender disparities in climate finance, with digital technologies enabling gender-specific financial products and services. Despite challenges like the gender gap in mobile phone ownership, these technologies can provide access to loans and insurance for women who are often excluded from traditional banking systems.
- She concluded by mentioning the availability of their research report online and thanked the FCDO for funding their work, before passing the session to the panel discussion.

Leila’s presentation was followed by a panel discussion. Ms. Disha Bhavnani, Manager, Digital Financial Services, MSC, and Mr. Partha Ghosh, Senior Manager, Climate Change & Sustainability moderated the panel discussion. The panellists were:

- Mr. Monirul Hoque, Head of non-life insurance, BRAC Microfinance.
- Mr. Sarathy Srinivas, Head International, WRMS

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- Mr. Vimal Panjwani, Founder, AgriVijay.
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The summary of each of the panelist's discourse is as follows:

### **Disha's introduction:**

Disha Bhavnani, associated with MicroSave Consulting's digital financial services practice, thanked the previous presenters and introduced the topic of climate finance and Fintech's role in building resilience for households, individuals, and enterprises in the face of climate change. She emphasized the importance of Fintech-driven financial instruments like savings, insurance, credit, and payments, as well as digital channels, in mitigating climate change risks due to their agility and outreach. Disha mentioned MicroSave Consulting's work in supporting start-ups in India and Bangladesh, highlighting how digital technologies and financial product innovations could address climate finance challenges by connecting various stakeholders, including banks, non-banks, regulators, consumers, technology service providers, and big tech firms. After introducing herself she introduced the panel and started the discussion.

### **Monirul Hoque on BRAC**

Monirul Hoque, who leads the insurance portfolio at BRAC Microfinance, discussed BRAC's vision, which revolves around helping people realize their potential. BRAC, consisting of various entities, is committed to the well-being and self-sufficiency of the people it serves. In the context of microfinance, BRAC initially offered loan moratoriums and pre-approved loans based on past repayment behaviours. However, they realized the limitations of these approaches and shifted their focus to insurance. They introduced Weather Index Insurance in collaboration with insurance companies and later introduced Area Index Insurance to cover risks like pests and diseases. Currently, they operate in numerous branches, aiming to expand their reach to more farmers in the coming year. BRAC Microfinance requires its clients, including marginal farmers with small plots of land, to pay premiums for insurance coverage. This approach encourages client understanding and engagement in insurance discussions and education, a practice they've continued even without external funding. This education has led to a 57% retention rate among clients who initially took insurance in early 2021, with 68% of them renewing their policies even without making claims. The organization recognizes that insurance alone isn't sufficient for the agricultural sector. They've integrated other value propositions into their offerings, such as partnering on solar irrigation, providing weather forecasts, and connecting farmers to markets and input suppliers. This holistic approach aims to reduce risks, lower premium rates, and ultimately scale up their initiatives. BRAC Microfinance believes that marginal people can pay premiums when the product offers value, emphasizing the importance of the right product and value proposition for this demographic.

### **Partha Ghosh and Vimal on AgriVijay**

Partha Ghosh discussed Vimal's startup, AgriVijay, which focuses on enhancing climate and financial resilience among smallholder farmers in India. Unlike traditional financial products, AgriVijay offers tangible renewable energy solutions, which not only reduce energy costs but also enable sustainable production even in areas with unreliable grid connectivity. These technologies, such as bio digesters, also provide organic manure as a by-product, contributing to resilience in agriculture. AgriVijay faced two main challenges. First, they had to address logistics and maintenance issues for the equipment delivered to rural areas. They adopted a village entrepreneurship model to ensure localized distribution

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and reliable after-sales service, building trust among farmers. Second, they tackled the upfront cost of these technologies, partnering with a non-banking financial company (NBFC) to offer financing options. This reduced the financial burden on smallholder farmers, making the equipment more accessible. AgriVijay successfully installed numerous pieces of equipment through financing, with a low default rate, emphasizing the importance of efficient logistics, distribution, and financing partnerships in leveraging renewable energy for resilience and income enhancement. Vimal from AgriVijay shared insights into their work in the renewable energy and green technology marketplace for farmers. They offer renewable energy products, provide education and recommendations, and facilitate self-financing, delivery, and installation of solutions on the ground. Their goal is to make renewable and green energy products accessible to farmers, helping them become energy-independent, increase savings, and combat climate change. Amid the COVID-19 pandemic in June 2020, AgriVijay recognized the need for financing to address the challenge of small and marginal farmers acquiring these products at an affordable cost. They partnered with an NBFC called Samunnati to provide financing. Through a pilot program, they found that farmers, including the poor and small/marginal farmers, had a high intent to pay for products like solar water pumps and bio-digesters due to the substantial savings and income generated. AgriVijay offered longer warranty periods and free insurance coverage against natural damage, providing assurance to farmers. To make financing accessible, they absorbed the interest cost and provided loans with zero processing fees and zero interest. Several success stories highlighted the impact of these products. For instance, a vegetable farmer switched from costly diesel generators to a solar water pump, repaid the loan in one year, and still benefits from the warranty. Such cases demonstrate the importance of making these products available to smallholder farmers, providing financial resilience, and income, and reducing greenhouse gas emissions in agriculture.

### **Sarathy Srinivas on WRMS**

Sarathy Srinivas from Weather Risk Management Services (WRMS) explained how their organization empowers climate resilience for underserved communities, particularly small farmers. They focus on providing risk management solutions to protect against climate shocks, including minor weather deviations that can impact agriculture and livelihoods. WRMS pioneered parametric insurance in multiple countries, managing assets worth over \$500 million and partnering with various financial service providers and insurers. Their technology has evolved from manual data entry to aggregating data from various sources, including satellites, remote sensing, government yield data, and global agencies. Recognizing the need to maximize data impact, WRMS developed weather models and advisory tools using farm-level data. They provide farm-level weather advisory, combining geolocation tagging with Facebook advisory, to enhance farmers' lives and productivity. Srinivas emphasized the importance of addressing climate risks in financial services, noting that credit life insurance has been the primary measure attached to loans. He highlighted the challenges of climate risk awareness, high premium rates, and the need for tailored, granular coverage to make weather insurance more affordable. WRMS has worked with MFIN, a microfinance network in India, to demonstrate the effectiveness of their approach. Srinivas stressed the importance of collaboration among financial institutions, insurers, and renewable energy providers to build strong ecosystems and make communities more climate-resilient. Srinivas highlighted several key considerations in designing relevant and affordable insurance products for underserved communities, particularly small farmers:

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- **Affordability:** Pricing is a critical factor. The premium should strike a balance between being low enough to encourage adoption while providing enough value for all parties in the ecosystem, including insurers. WRMS often aims for premiums of around 10% of the sum insured.
  - **Subsidy Management:** While subsidies can initially boost product uptake, they need to be managed carefully to avoid dependence and ensure long-term sustainability. Some customer buy-in is crucial even in subsidized programs.
  - **Relevance and Flexibility:** Products need to be tailored to different locations, crops, and situations. Dynamic pricing can be used to accommodate varying needs. Flexibility in technology, design, and operations is essential to provide affordable and relevant solutions.
  - **Timeliness:** Quick pay-outs are a key advantage of parametric insurance. Integration with mobile wallets and other payment methods ensures instant payments. Pre-event payments, also known as anticipatory actions, are gaining traction and can significantly reduce losses.
  - **Awareness:** Building awareness and trust among the target population is crucial. Farmers need to understand where the data comes from and trust the information. This awareness ensures the long-term sustainability of insurance products.
  - In summary, Srinivas emphasized that designing insurance products requires careful consideration of affordability, subsidy management, relevance, flexibility, timeliness, and awareness to create viable and self-sustaining solutions for climate resilience.

The Question and answer session followed the panel discussion. One of the audience members posed a question. How can FinTechs collaborate with public and private sector banks to develop products that go beyond insurance and agriculture? Are such products already out there in which leading banks are involved, and what population segment do such products target?

**Vimal** answered by sharing their past experience in collaborating with banks and financial institutions, particularly with Axis Bank. He highlighted the challenge of reaching farmers in remote areas who had sought financing, even for high-capital products like mini-tractors or renewable energy products, which could be covered by early-term loans. Vimal mentioned that public sector banks were introducing various financial products, including Kisan Credit Cards (KCC) and dairy loans, which private banks were eager to partner on. He also mentioned the emergence of green energy solutions like electric tractors and tillers and the need for banks to develop financial products for such technologies. Banks had been open to piloting and partnerships with companies to experiment in this evolving space, with the expectation that the organization covered the initial risk during pilots. Once these products had matured in terms of credit rating, they could be offered to other ecosystem stakeholders. Vimal alluded to a growing interest in financing agricultural innovations and green energy solutions in partnership with banks.

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**Monirul** added by saying that while considering a Fintech partnership, the primary focus is on addressing existing challenges, including pricing and communication issues, especially in the context of insurance. These challenges can either be resolved internally or by partnering with a Fintech company that provides a suitable solution. Timeliness is another crucial aspect, particularly in claims processing. Monirul elucidated the statement with a specific problem with frequent changes in mobile wallets in Bangladesh and concerns regarding mobile handset ownership. They express the need for a solution that facilitates quick pay-outs after obtaining the necessary data from their partner. The ultimate goal of such collaborations is to streamline and simplify operations for the financial organization, making their processes more efficient and effective.

An audience member placed a request that we should focus on mitigation as well. **Partha** responded to that request by emphasizing the interconnectedness of climate mitigation and adaptation, especially concerning low-income and vulnerable populations. While these concepts may seem distinct on a macro level, they are closely intertwined in the context of individual lives. New-age technologies play a crucial role in addressing issues of circularity, sustainability, and reducing carbon emissions, making them essential for both adaptation and mitigation efforts. Partha highlighted the responsibility of developed countries to develop large-scale solutions for carbon reduction through advanced technologies. In contrast, countries in the global South face the dual challenge of building resilience while transitioning to sustainable energy sources. The collaborative work of organizations like Vimal, WRMS, and BRAC aims to bridge these two approaches and create holistic solutions. Practitioners like Monirul, Sarathy, and Vimal recognize that adaptation and mitigation should not be seen as separate initiatives but as interconnected aspects of addressing climate change.

Partha closed the Q&A session in the interest of time and thanked the panellists for their participation and insights. The organizers acknowledged that the panellists had helped them understand the market-level challenges often overlooked in the development sector. It was recognized that program design and implementation went beyond grants and subsidies, and as programs progressed, market forces such as supply and demand played a crucial role. Practitioners were praised for their role in ensuring program scalability by designing products and showing empathy towards both end-users and financial institutions with the resources to drive initiatives at scale. GSMA and MicroSave Consulting, as technical advisors and champions in the climate-resilient agriculture field, expressed their commitment to continued engagement with practitioners and technology experts like the panellists, both online and offline. The floor was then handed over to GSMA for the valedictory speech.

**Leila** from GSMA concluded the session by expressing gratitude to everyone who attended the session and extended thanks to MicroSave Consulting. Leila characterized the session as excellent, emphasizing the reality of climate change and the need for ongoing work in this area. She called for continued collaboration and conversation. Finally, she thanked the participants and concluded the session, inviting anyone with additional comments to share them.

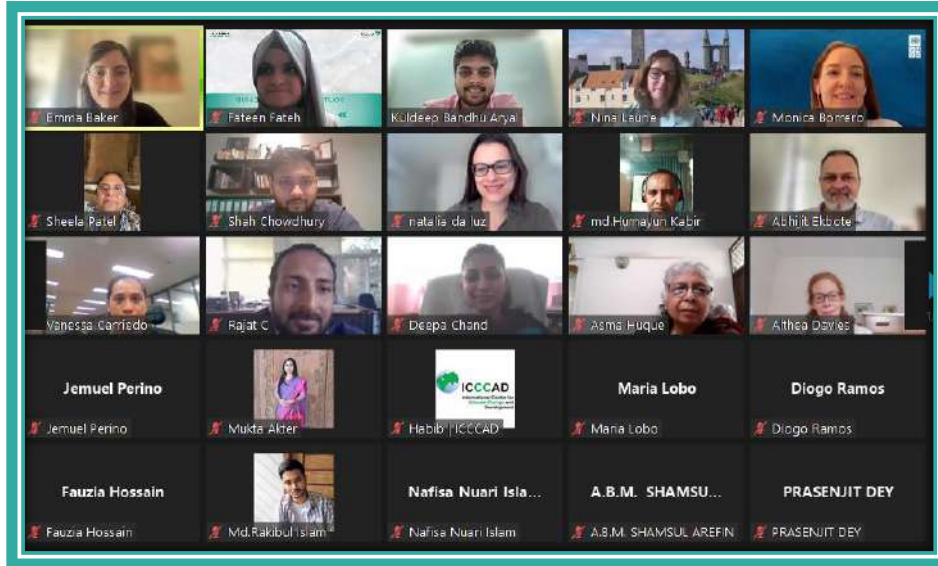


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## **Water and Natural Ecosystem**



## When Risks Emerge, Innovative Solutions Come Into Place: The Stories of Local Champions in Nepal, India, and Bangladesh



**Rapporteur name:** Md. Rakibul Islam

**Organization:** UNDP, AFCIA/ISGAP

### **Speakers:**

1. Monica Borrero, Programme Manager, Adaptation Fund Climate Innovation Accelerator (AFCIA/ISGAP)
2. Emma Baker, Knowledge and Outreach Manager, South South North
3. Shah Chowdhury, Footsteps Bangladesh Incorporated Coordinator
4. Sheela Patel, Sparc: Society for the Promotion of Area Coordinator
5. Kuldeep Bandhu Aryal, Rural Development Initiative Coordinator
6. Nina Laurie, Professor of Human Geography

### **Speaker 1: Monica Borrero**

Monica believes that innovation is crucial for addressing the impacts of climate change. She emphasizes the need for immediate and urgent action to scale up and accelerate innovative climate change adaptation approaches. These innovations encompass technologies, practices, business models, and behavioural changes. Monica highlights the UNDP's efforts in collaboration with partners since 2018 to mobilize

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funds for adaptation projects in 93 countries. Many of these projects are innovative and ground breaking, emphasizing the importance of innovative approaches. She introduces the Axia program, which aims to foster locally led adaptation initiatives, support communities in responding to climate stresses innovatively, and scale successful solutions. The program has already issued millions in grants to local partners, with the aim of benefiting a large number of people, including a focus on gender equality and empowerment.

### **Speaker 2: Emma Barker**

Emma explained that the Resilience Evidence Coalition, formerly known as the Resilience Knowledge Coalition, is hosted by the Global Resilience Partnership. It focuses on amplifying and diversifying Southern voices on resilience evidence. This coalition acts as a network of networks, connecting various initiatives and aiming to make them collectively more effective. Emma emphasized that the Resilience Evidence Coalition is one of the knowledge partners for Afca, providing support for grantees in terms of knowledge, capacity strengthening, and documenting and sharing the experiences and lessons learned by these grantees, both locally and internationally. Emma outlined the structure of the webinar session, explaining that it would feature three speakers from Bangladesh, India, and Nepal, who would present their innovative solutions related to climate change adaptation. The session would include opportunities for clarifying questions after each presentation and a full question and answer session at the end.

### **Speaker 3: Shah Chowdhury**

Shah introduced the Dreamwater project, where they are empowering women and converting flood disasters into opportunities. He shared a powerful example of Rokia, who used the Dreamwater device to convert floodwater into safe drinking water during a severe flood in Bangladesh. This set the stage for the presentation. Shah highlighted the severe flooding challenges in Bangladesh, where millions of people live in high flood-risk areas. He emphasized that traditional emergency responses involved bringing plastic water bottles to flood-affected areas. He questioned the need for importing water when there's abundant floodwater and explained how they aimed to harness local water sources using Dreamwater portable filters. Shah discussed the development of the Dreamwater portable filter, its unique features, including the ability to remove contaminants and improve taste. He shared their progress, including the deployment of Dreamwater filters in flood-affected areas, the number of liters of floodwater converted into drinking water, and the reduction in plastic bottle usage. He also mentioned plans for further expansion and building climate and economic resilience in target communities. Shah's presentation highlighted the innovative approach of the Dreamwater project in addressing both flooding challenges and the need for sustainable access to safe drinking water during disasters.

### **Speaker 4: Sheela Patel**

Sheela begins by reflecting on her work over the years, emphasizing the transformative potential of addressing challenges faced by marginalized urban communities. She mentions her experience of working with people living on the sidewalks of Mumbai and developing innovative methodologies for improving their living conditions. Sheela discusses her efforts in combating urban sprawl and ecological destruction, particularly in metropolitan regions. She highlights the importance of restoring water bodies and preserving nature-based solutions. She showcases an initiative where communities partnered with professionals to rejuvenate water bodies, addressing issues like faecal contamination and improving water quality while creating livelihood opportunities. Sheela emphasizes the importance of sharing knowledge and methodologies with other metropolitan regions facing similar challenges. She mentions

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the soft inquiries and interest from other locations, suggesting that the successful approaches they have developed can be replicated and adapted in various contexts to promote resilience, sustainability, and improved urban living conditions. Sheela Patel's work focuses on empowering urban communities, promoting environmental restoration, and sharing strategies for urban development that have a broader transformative impact.

### **Speaker 5: Kuldeep Bandhu Aryal**

Kuldeep discusses the importance of a community-led approach to development, specifically in the context of Nepal's transition into a federal state. He emphasizes the need for a community-based perspective in resource allocation and development processes. The project "Knowledge Landscape" focuses on identifying local adaptation practices and interventions for drought reduction, water management, and rangeland practices. Kuldeep highlights the significance of integrating indigenous knowledge and practices into the adaptation efforts. He mentions that the project actively engaged with local communities to gather indigenous knowledge, understand historical contexts, and identify vulnerabilities associated with climate change. The goal is to combine traditional practices with scientific knowledge to address the evolving challenges. Kuldeep outlines how the project adheres to eight principles of locally led adaptation. These principles include devolving decision-making, addressing structural inequalities, ensuring transparency and accountability, and building local capabilities. The project seeks philanthropic and local investment, engages the community in the entire process, and aims to provide a flexible and solution-based approach to adaptation. Throughout his presentation, Kuldeep underscores the urgency of climate change and how local communities, despite facing immense challenges and disasters, are at the forefront of resilience and adaptation efforts.

### **Speaker 6: Nina Laurie**

Nina Laurie expresses a keen interest in the co-production of geographical knowledge, especially in the context of herding communities. She inquires about the extent to which herders are actively involved in generating geographical knowledge, potentially through the use of new skills and technologies. She references an example from their work in Northern Peru, where school children utilize satellite images. She is curious about whether similar practices are being incorporated into the project. She is interested in understanding if the project involves the communities in acquiring new geographical skills. She is interested in knowing whether the project focuses on capacity-building within these communities, enabling them to utilize modern geographical techniques and tools. This points to a broader interest in fostering local knowledge and skill development. Nina Laurie raises a question about the apprenticeship aspect of the project. She seeks to ascertain whether the apprenticeship model is solely based on oral traditions or if it involves the production of tangible resources through dialogues with the herders. Furthermore, she is interested in whether these resources could potentially be scaled up or shared with other communities, implying a desire for knowledge transfer and scalability of successful practices.

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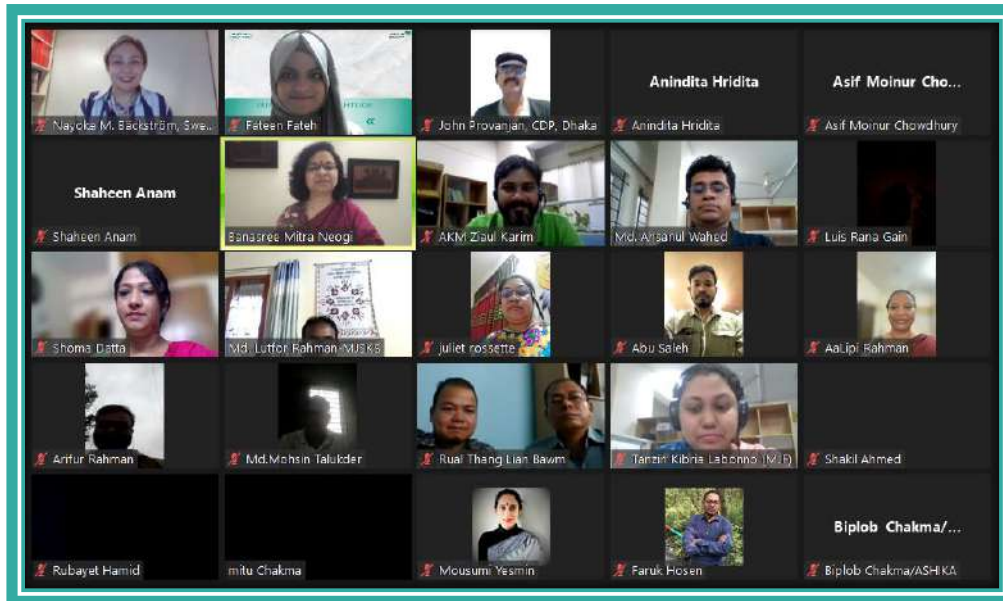
### **Three key takeaways from the end of the session:**

1. The importance of innovation in addressing the impacts of climate change is emphasized. Initiatives that leverage innovative approaches, including technologies, practices, business models, and behavioural changes, are seen as essential. Collaboration with partners to mobilize funds for innovative adaptation projects in multiple countries underscores the commitment to innovative solutions.
2. The existence of knowledge networks and coalitions, like the Resilience Evidence Coalition, signifies a collective effort to amplify and diversify voices on resilience evidence. These networks play a vital role in providing support and sharing experiences to strengthen local and international grantees' capacity.
3. The transformative potential of initiatives aimed at marginalized communities and urban resilience is highlighted. Sheela Patel's work in addressing urban sprawl, restoring water bodies, and sharing methodologies illustrates the broader impact such initiatives can have. The importance of sharing knowledge, strategies, and methodologies across different contexts is recognized as a means to promote resilience, sustainability, and improved living conditions.

### **Session Summary:**

The session featured a diverse range of speakers and topics focused on climate change adaptation and innovation. Monica Borrero stressed the urgency of addressing climate change through innovation, encompassing various approaches like technology, practices, and business models. The UNDP's collaboration with partners to fund innovative adaptation projects in multiple countries highlighted the commitment to these approaches. Emma Barker introduced the Resilience Evidence Coalition, emphasizing the importance of collective effectiveness in amplifying and diversifying voices on resilience. Sheela Patel showcased transformative initiatives that address the challenges of marginalized urban communities, emphasizing the importance of sharing knowledge for broader impact. Shah Chowdhury's presentation on the Dreamwater project illustrated an innovative approach to converting flood disasters into opportunities, particularly focusing on women's empowerment and sustainable drinking water solutions in flood-prone regions. Kuldeep Bandhu Aryal underscored the significance of community-led development in Nepal, incorporating indigenous knowledge to tackle climate challenges and highlighting the urgency of local adaptation. Nina Laurie expressed a deep interest in the co-production of geographical knowledge in herding communities, focusing on acquiring new geographical skills and potential scalability through dialogue and apprenticeship models. The session collectively emphasized the importance of innovation, collaboration, transformative initiatives, community-led Approaches, and knowledge sharing in the context of climate adaptation and resilience.

## Women and Water: Gendered Impact of Climate Change



**Rapporteur name:** Md. Ahsanul Wahed

**Organization:** Manusher Jonno Foundation

### Speakers:

1. Shaheen Anam, Executive Director, Manusher Jonno Foundation
2. Banasree Mirta Neogi, Director-Program, Manusher Jonno Foundation
3. Md. Shamsuddoha, Chief Executive, CPRD
4. Nayoka Martinez- Backstrom, First Secretary (Environment and Climate) and Deputy Head of Development Cooperation, the Embassy Sweden in Dhaka.

### Speaker 1: Shaheen Anam

Salinity and contamination of heavy metal like arsenic in the ground water are leading to the fresh water scarcity especially in climate vulnerable areas. Women are bearing a disproportionate impact of water scarcity as they are the primary manager for household water. Water scarcity impacting women by increasing their unpaid care work load in relation to water collection and management. Scarcity of fresh water violates SRHR rights, increasing health complications as well as pulling women to the risk of domestic violence and sexual harassment.

### Speaker 2: Banasree Mirta Neogi

Ms Banasree has emphasized on the disproportionate impact on women triggered by fresh water crises including increase in workload, violation of SRHR rights, health Hazard, school dropout, Gender based violence, insecurity, displacement migration. These disproportionate impacts on women lead to the water



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poverty and gender inequality. Climate change has a significant impact on availability, distribution and quality of water resources. Fresh water scarcity negatively impacts the ecosystem and biodiversity due to changing rainfall patterns, sudden extreme events like cyclones as well as sea level rise. She coined the importance of ensuring women's effective participation and representation in local level decision making process, effective management of fresh water sources, valuing their skills and traditional knowledge, working for changing gender role with a comprehensive multispectral approach to recognise gender differentiated challenges.

### **Speaker 3: Md. Shamsuddoha**

Md. Shamsuddoha mentioned that the weak governance as well as unplanned development also influencing scarcity of fresh water. Emphasis has been given to localized planning, decentralization of services, addressing gaps within the governance system and a state led initiative for ensuring availability of fresh water. Water and associated health crises are related to human rights. Therefore a different kind of discussion can be initiated to push the national government to address climate change impacts on human rights and take a collaborative effort involving relevant ministries to solve.

### **Speaker 4: Nayoka Martinez- Backstrom**

It has been emphasised to work with the existing governance system for improving gaps still remaining. Further, urged to work with national planning tiers like district, upazila and union to mobilize them to allocate funds for climate change. The speaker also talked about women's economic empowerment following the poverty graduation approach. She recommended building the capacity of women so that they can deposit money and establish climate smart enterprises. Women's financial literacy and interactions with financial institutions to ensure flexible access of women entrepreneurs to financial resources is important for women empowerment. She also mentioned bringing the water related health issues of women and girls in CoP28 as it has close connection with the Loss and Damage.

### **Three key takeaways from the end of the session**

1. Investing in climate-resilient water infrastructure, bridging existing governance gaps, and decentralizing services is imperative. This approach can alleviate the burden on women, ensure universal access to clean water, and boost overall productivity.
2. Encouraging education and economic opportunities and promoting financial literacy for women are crucial in addressing the gendered impacts of climate change.
3. Capacity-building is essential to empower women and involve them in the decision-making process. This is a vital step towards a more equitable and sustainable future

### **Three key takeaways for CoP28**

1. Fulfil the climate financing commitment by the countries responsible for climate change to address gendered impacts.
2. Climate funding should address social issues to promote gender equity.
3. Operational mechanism of Loss and Damage fund should be flexible to amplify access by the vulnerable counties.



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## Session Summary

The session focused on women's and girl's hurdles due to the scarcity of fresh water. How fresh water scarcity due to climate change as well as weak governance are triggering gender-based violence, domestic violence, unpaid care work load, health crisis, time poverty, school dropout, SRHR problem and inequality have been discussed. During the session the voices from grassroots have been heard especially on their struggle for fresh water.

There are several recommendations that came out from the webinar for addressing women's and girl's hurdles. Addressing the gendered impact due to fresh water scarcity needs a collaborative approach. Localized planning, addressing gaps that are weakening governance, decentralizing services, ensuring effective participation of women in water sector decision making, promoting education and economic opportunities, ensuring flexible access to finance by women and enhancing the capacity of women for their socio-economic empowerment are the key recommendations that came out from keynote speaker, panel discussant and audience.

Also, the fulfilment of commitments to climate financing by the developed countries and flexible funding mechanism for climate financing windows like GCF, AF and the newly agreed Loss and Damage fund to amplify access of vulnerable countries has been demanded from the webinar.

## Wash and Climate Justice in South Asia



**Rapporteur name:** Roshni Sumitra

**Organization:** Institute of Development Studies (IDS), University of Sussex

### Speakers

1. Shilpi Srivastava: Research Fellow, IDS (Chair)
2. Roshni Sumitra: Research Officer, IDS
3. NC Narayanan: Professor, Indian Institute of Technology – Bombay
4. Prabha Pokhrel: Institutional Development Expert, Integrated Development Society, Nepal
5. Sabitri Tripathi: Professor of Chemistry, Nepal Engineering College
6. Shibaji Bose: Participatory Arts and Visual Approach Consultant

### Discussants

1. James Ebdon: Professor of Environmental Microbiology, University of Brighton
2. Ruhil Iyer: Research Officer, IDS

### Speaker 1: Roshni Sumitra

The rapid pace of climate change and associated uncertainties are exacerbating inequities in the sanitation sector. It is important to link up and address the interconnected challenges between WASH and climate change. Social Science research has primarily focused on the immediate climate shocks (such as floods) and access to sanitation. Although significant, this limited focus restricts our understanding of climate change's wider impacts on the sanitation chain. Neglecting these dimensions

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reinforces sanitation inequalities related to gender, caste, class, race, and age. Gender marginality and its links with climate justice remain a central focus across various hazards. The emerging discussions concerning sanitation resilience include the viability of sanitation infrastructure and the access and inclusion of technology.

### **Speaker 2: NC Narayanan**

To move beyond the debates on centralised and decentralised sanitation systems, insights from the situational analysis conducted in Indian towns were demonstrated. Multiple technical (such as gaps in geospatial and socio-economic data) and institutional (such as regulations and participation incentives for technicians) were highlighted as some of the main challenges. A comprehensive evaluation of policy processes at local, state, and national levels is essential to transition toward more inclusive and sustainable sanitation. Concurrently, empowering youth through local capacity building cultivates climate-aware citizens, which is a key factor for enhancing sanitation resilience.

### **Speakers 3 and 4: Prabha Pokhrel and Sabitri Tripathi**

Evidence from Nepal highlights significant challenges to achieving inclusive sanitation, including limited awareness, restricted access to toilets, infrastructure gaps, and budgetary constraints. Prioritizing public health, incentivizing sustainable sanitation practices, and safeguarding sanitation workers' rights and well-being need to be a priority for the sanitation ecosystem. It is essential to consider the unique challenges faced by landless communities with limited economic resources and entrenched caste inequalities. Governments at all levels must understand that ensuring safe sanitation and addressing disaster vulnerability is fundamental to achieving social justice for such marginalised groups.

### **Speaker 5: Shibaji Bose**

Achieving just sanitation requires centring the voices and experiences of the communities that are on the frontline of climate and WASH injustice. Their concerns must be placed at the forefront of climate discussions. Visual communication tools such as photo voice spur participation and community-led sanitation change. It helps to map the lived experiences, perspectives and engagement of diverse communities. Further, using techniques such as photo elicitation various interdisciplinary intersections of sanitation through the natural and social sciences lens are highlighted. Such participatory research brings the otherwise hidden aspect of the sanitation chain and power imbalances to the forefront. Moreover, this level of collaboration helps to reimagine the community sanitation landscape from their lens

### **Three key takeaways from the end of the session**

1. Climate change has significant impacts on multiple points in the sanitation chain raising critical concerns for both adaptation and mitigation. The impact of temperature variability, especially heat, is a critical blind spot.
2. We must address impacts emanating from climate shocks but more importantly, we need to focus on slow-onset hazards (such as droughts) which are often neglected and remain invisible. This is critical to avoid maladaptive outcomes in this sector.

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3. Addressing these challenges requires trans disciplinary collaborations and radical methodologies that lift the unseen and invisible, yet pervasive, distributive, procedural and recognition injustices in this sector.

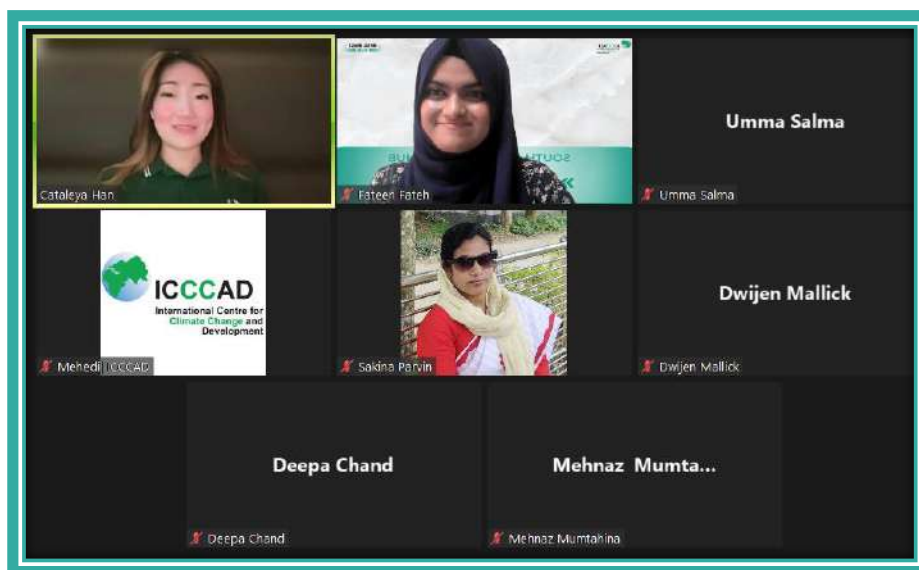
### **Session Summary**

The session on ‘Wash and Climate Justice in South Asia’ debated the profound risks posed by climate uncertainty to sanitation. The conversation revolved around the impacts of the climate crisis on sanitation resilience and it explored diverse strategies to address these complex challenges. With a focus on ensuring safe, just, and inclusive sanitation, the session highlighted the often overlooked aspects of climate change and WASH discourse, emphasizing the need for broader perspectives. Evidence and insights drawn from research in South Asia, including the IDS-led 'Towards Brown Gold' project, were showcased. Moreover, the session delved into sector priorities and actionable steps for reimagining WASH from a climate perspective, toward COP 28 and beyond. It was emphasized that in these times of climate crisis, to achieve safe inclusive sanitation, we must shift our focus to the often hidden and indirect impacts of climate hazards (such as heat) particularly at the local level where slower-onset climate issues pose unique challenges. The discussion further underscored the importance of collaborative community-led sanitation and the need to safeguard the dignity of sanitation workers, who often bear the brunt of climate- induced challenges. Pertinent questions emerged regarding standardizing climate resilience and addressing the wide disparities in the value chain. The session also touched on the role of resilient sanitation technologies, addressing gender marginality, and outlining pathways for climate-resilient sanitation. It additionally showcased that prioritizing public health and incentivizing sustainable sanitation practices through a multidisciplinary lens with diverse stakeholders is essential. In a world marked by complex and interconnected climate challenges, this event provided a platform for a comprehensive discussion on the evolving landscape of sanitation, its links with climate justice and the profound impact of structural injustices.

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## **Food and Agriculture**

## Unmask The Power of Women and Youth in Green Transition For a More Sustainable and Traceable Agri-food Transformation System in The Asia-Pacific Region



**Rapporteur name:** Cataleya Han and Fateen Fateh

**Organization:** Universal Versatile Society (UV Society), Nisarg Foundation

**Speakers:**

1. Narayan Solanke, President of Universal Versatile Society
2. Cataleya Han, Advisory Board Member of Universal Versatile Society
3. Vikrant Srivastava, FAO Youth Policy Board Member, CEO & Co-Founder of Nisarg Foundation, Regional Focal Point for Asia & Pacific at CYMG UNEP

**Speaker 1: Narayan Solanke**

UVS is conducting a research-based mental health survey in the Vidarbha region of Maharashtra, India, to address the high suicide rates among farmers due to factors like poverty, climate conditions, and insufficient government aid. The survey will collect data on farmers' mental health status, stressors, and coping mechanisms. This data will be used to develop and implement targeted interventions to support farmers' mental health and well-being. UVS has launched a Digitized Eco Village Program to promote digital innovations in rural communities, with a focus on empowering women, youth leadership, and promoting veganism among young people. The program provides training and resources to rural communities on how to use digital technology to improve their livelihoods, access education and healthcare, and connect with the global community. The speech highlights the need for combining nature-based and technology-driven approaches, as well as collaborating with the first nations to address climate crises facing farmers and transform meat-eaters into vegans for responsible production and consumption. Nature-based solutions, such as agroecology and permaculture, can help farmers to build



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resilience to climate change by improving soil health, water retention, and biodiversity. Technology-driven solutions, such as precision agriculture and renewable energy, can also help farmers to reduce their input costs and environmental impact. Collaboration with the first nations is essential, as they have a deep understanding of the local environment and traditional knowledge that can be used to develop effective climate adaptation strategies. Transforming meat-eaters into vegans is another important step in reducing our impact on the climate. Animal agriculture is a major contributor to greenhouse gas emissions, deforestation, and water pollution. By reducing our consumption of meat and other animal products, we can help to mitigate climate change and protect our planet.

### **Speaker 2: Cataleya Han**

Gender equality is often overlooked in climate policies, especially in China's NDCs. Empowering women in climate action can have wide-reaching benefits, such as improving women's access to resources, financial services, and eco-agricultural technologies. Closing the gender resource gap can lead to increased farm yields, reduced poverty, and lower carbon dioxide emissions. We need to raise public awareness of gender equality and climate impacts, create gender-sensitive databases, amplify women's voices in decision-making, and train relevant authorities to integrate gender considerations into climate initiatives. We need to advocate for international collaborations and dialogues under women's leadership in the areas of renewable energy and climate capacity building.

### **Speaker 3: Vikrant Srivastav**

The Regenerative Agriculture Project aims to revive traditional agricultural practices in India, such as crop rotation, intercropping, and cover cropping. These practices help to improve soil health, reduce pesticide and fertilizer use, and increase biodiversity. The project also emphasizes the need for more youth engagement in agriculture. Vikrant talks about promoting workshops and training for young farmers to bridge the gap between traditional knowledge and modern technology. The project aims to involve at least 40% women and youth in agriculture. The project aligns with various Sustainable Development Goals (SDGs), including no poverty, zero hunger, good health, quality education, responsible consumption, and life on land. It seeks to ensure food security, promote healthier nutrition, and combat climate change by sequestering carbon in the soil and balancing ecological factors.

### **Three key takeaways from the end of the session**

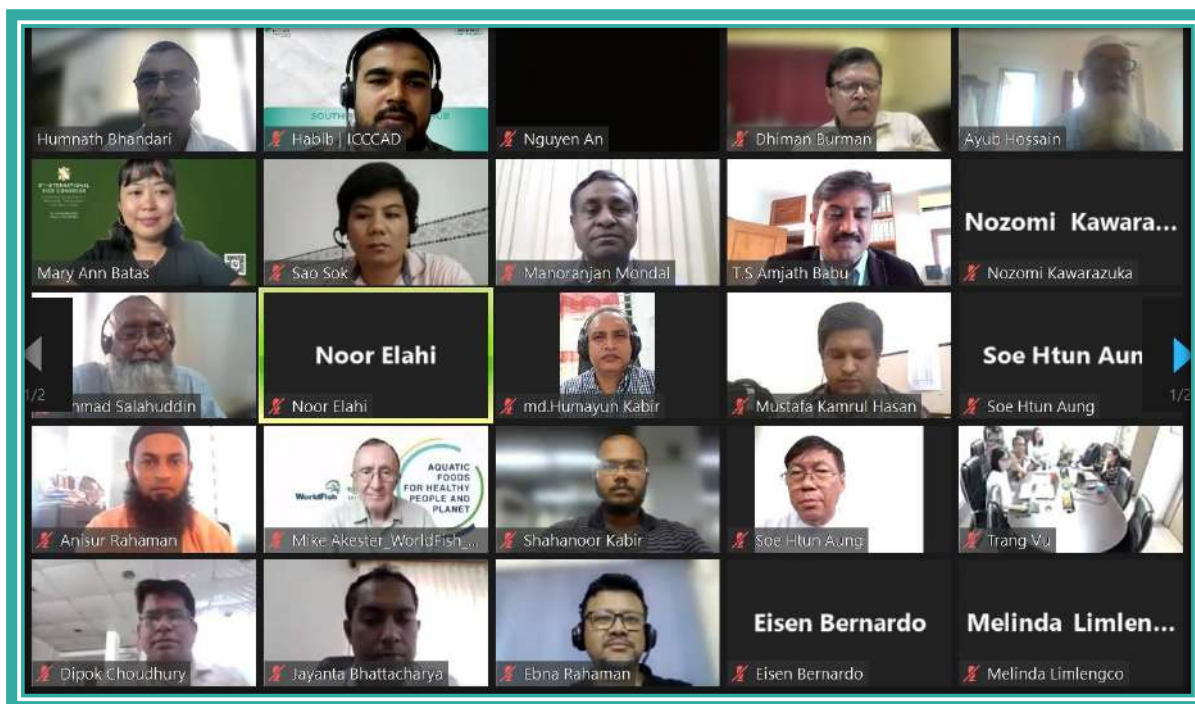
1. Sustainable agriculture is crucial for reducing environmental impact and improving resilience to climate change. This includes a combination of traditional and modern practices, such as crop rotation, precision agriculture, and renewable energy.
2. Gender equality is essential for climate action. Empowering women in agriculture improves their access to resources and technologies, and has broader positive impacts, such as increased farm yields and poverty reduction.
3. Collaboration and international cooperation are essential to effectively tackle climate change and environmental challenges. This includes working with first nations, advocating for gender-sensitive approaches, and fostering international collaborations in areas like renewable energy and climate capacity building.

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## Session Summary

The session was focused on sustainable agriculture practices, highlighting the need to combine traditional and modern methods to address climate change and promote environmental sustainability. They emphasized the importance of nature-based and technology-driven approaches, collaborating with indigenous communities, and empowering women in climate action. Often role of gender equality is overlooked in climate policies is highlighted, noting that empowering women in climate action can lead to increased agricultural productivity, poverty reduction, and lower carbon emissions. She also emphasized the importance of integrating gender considerations into climate initiatives and international collaborations, led by women, in areas like renewable energy. The Regenerative Agriculture Project in India is also discussed, which aims to revive traditional farming practices. He underlined the significance of engaging youth in agriculture and bridging the gap between traditional knowledge and modern technology. He also noted that the project aligns with various Sustainable Development Goals, addressing issues like poverty, hunger, and climate change while promoting ecological balance. Overall, the session stressed the importance of a holistic approach to sustainable agriculture, one that combines traditional and modern methods, integrates nature-based and technology-driven approaches, and empowers all members of society, including women and youth.

## Securing the Food and Agriculture System of Asian Mega Deltas for Climate and Livelihoods Resilience



**Rapporteur name:** Eisen Bernard Bernardo

**Organization:** CGIAR Initiative on Asian Mega-Deltas

### Speakers:

1. Dr. Amjath Babu, CYMMIT
2. Dr. Manoranjan Mondal, IRRI
3. Mr. Sok Sao, WorldFish
4. Dr. Nozomi Kawarazuka, CIP
5. Dr. Dhiman Burman, CSSRI

### Speaker 1: Dr. T.S Amjath Babu

The presentation of Dr. T.S Amjath Babu titled -Women to women climate information service model: Can it de-risk the smallholder farmers and microfinance?

The presented research work tries to answer a pertinent question - How to make mobile app based dynamic weather information and advisory services inclusive, especially for marginalized women farmers without smartphone access, in a sustainable way? The experiment proves that trained women lead farmers as digital climate advisory service providers can facilitate timely weather information and

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crop advisory to marginalized women farmers with a human touch. The women to women service provider model also creates income earning opportunities to lead women farmers and enhance their social standing. For women farmers who receive the calls from lead women farmers, they are able to reduce weather risks to farmers, which also reduces risk of default or delayed payment to microfinance lenders. This indicates the feasibility of a bundled model of credit linked climate service.

### **Speaker 2: Dr. Manoranjan Mondal**

The presentation by Dr. Manoranjan Mondol titled -Resilient production systems for the food security of the coastal communities of Bangladesh.

Existing production systems, Traditional Rice-Rabi crops (pulses, oilseeds, and vegetables) are low productive and climate risky. Traditional rice harvest at late that delays dry season crop establishment and exposes the crops to damage by pre-monsoon rains and cyclones at or near maturity. Resilient production systems were developed introducing high yielding rice in wet season, and high value crops (maize and sunflower) in dry season managing the hydrology of the coastal zone through an innovative cluster-based farmer field school (CFFS) model. This nature-based and semi-mechanized production practices seems to be the key solutions for food security of the climate vulnerable communities of coastal Bangladesh.

### **Speaker 3: Mr. Sok Sao**

The presentation by Mr. Sok Sao titled The role of water, connecting the Community Fish Refuge (CFR) Committee and Farmer Water User Community (FWUC) in improving fisheries and rice production in Boeng Ream, Kampong Thom.

The better coordination between Community Fish Refuge (CFR) and Farmer Water User Community (FWUC) at community level have led to improve the connectivity between the Community Fish Refuge (CFR), the irrigation system, rice farming and fisheries as an integrated food production system through improving water governance in **Boeng Ream** CFR. The role of women in Boeng Ream Community Fish Refuge (CFR) conservation and improving the food production system for addressing climate change. Promote the collaboration between the CFRs/CFis and FWUC, and Fishery Administration (FiA) and Ministry of Water Resources and Meteorology (MOWRAM) to work together to manage the fishery, water, rice farming, and irrigation management based on collective approaches and interests to produce foods and support the livelihoods of local communities.

### **Speaker 4: Dr. Nozomi Kawarazuka**

The presentation by Dr. Nozomi Kawarazuka titled -Saline tolerant potato and sweet potato production in the rice cropping system in the Mekong Delta

Potato production in the paddy field using rice straws can reduce labor and carbon emission, meanwhile improve soil conditions. Saline tolerant potato varieties enable farmers in the Asian Mega-Deltas region to utilize fallow paddy fields for potato production in the winter. A short-maturity sweet potato (95 days) can fit with the rice cropping systems in the Asian Mega-Deltas region for crop diversification. Community Nutrition Scholars - a sustainable scaling model of women's empowerment combined with nutrition education and growing nutritious vegetables and sweet potato in home gardens

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## **Speaker 5: Dr. Dhiman Burman**

The presentation by Dr. Nozomi Kawarazuka titled -Land shaping technology for climate resilience in salt affected coastal zones in West Bengal

Land shaping is an innovative climate resilient technology for addressing the key challenges - land degradation (salinity), drainage congestion and scarcity of fresh water for irrigation in dry season. Techniques have the potential to enhancing production, productivity and income, and employment generation. This technology can be extended to low-lying salt affected coastal areas in other parts of the country and in similar tropical island systems elsewhere.

### **Three key takeaways from the end of the session:**

1. A bundle of community-based water management, cluster-based diversified and semi-mechanized production systems, nature-based solutions, and enhanced farmers' capacities can improve productivity, resilience, and livelihoods of farmers in the Asian Mega-Deltas.
2. Women farmers-targeted weather and agro-advisory information services not only improve productivity and resilience of the agri-food systems, but also empower women.
3. The adoption of innovations in potato production systems such as minimum tillage potato planting, saline tolerant potato varieties, rice-sweet potato cropping system, and development of community nutrition scholars can improve agricultural productivity, climate adaptation and mitigation, human nutrition and women entrepreneurship in the Asian Mega-Deltas.

### **Session Summary**

The CGIAR Initiative on Asian Mega-Delta aims to combat the impact of climate change among farmers and other value chain actors in three major deltas. Its goal is to transform the agri-food system of these deltas by building climate resilience and improving livelihoods for various stakeholders. During this session, efforts were made to reflect the types of initiatives that have been implemented in communities across different Asian Mega-Deltas in recent years, as well as the early impact potential achieved in different countries so far.

The session is divided into two parts: the Bangladesh session and a South-South exchange.

In the Bangladesh session, Dr. Amjath Babu and Anisur Rahman Tipu of CIMMYT discussed the women-to-women climate information service model and how it can mitigate risks for smallholder farmers and microfinance. On the other hand, Dr. Manoranjan Mondal and Pinky Ray of IRRI Bangladesh, presented on resilient production systems for ensuring food security in coastal communities of Bangladesh.

In the South-South exchange, Mr. Sok Sao of WorldFish Cambodia showcased a case study on the role of water in improving fisheries and rice production in Boeng Ream, Kampong Thom, by connecting the

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Community Fish Refuge (CFR) Committee and the Farmer Water User Community (FWUC). Dr. Nozomi Kawarazuka of CIP Vietnam shared insights on saline-tolerant potato and sweet potato production in rice cropping systems in the Mekong Delta. Lastly, Dr. Dhiman Burman of CSSRI India presented a farmer's story on land shaping technology for climate resilience in salt-affected coastal zones in West Bengal.

Based on the presentations and discussions, the common theme from the stories shared by the presenters is that: the utilization of community-based water management, cluster-based diversified and semi-mechanized production systems, nature-based solutions, enhanced farmers' capacities, women farmers-targeted weather and agro-advisory information services, and digital technologies like land shaping can enhance productivity, resilience, and livelihoods of farmers in the Asian Mega-Deltas while empowering women and improving agrifood system resilience.

All five presenters have presented a set of innovative adaptation technologies that are across season, integrated and for intensification based on nature-based solutions approaches and local potential.

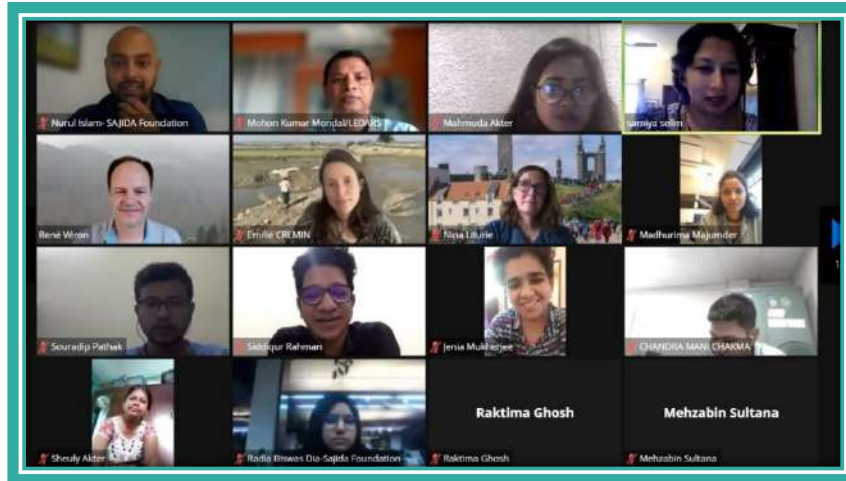
All cases also have innovative extension models that are best suited for disseminating and scaling up the technology, creating a resilient system that contributes to the development of a sustainable development model. Examples of these models include:

- Organizing and working with women-led digital climate advisory service provider groups that are linked to micro-finance
- Cluster-based Farmer Field School Model
- Collaboration between the Community Fish Refuge (CFR) Committee and the Farmer Water User Community (FWUC)
- Introduction of Community Nutrition Scholars as a sustainable scaling model for women's empowerment combined with nutrition education.

The combination of technologies and innovative extension models offer us examples of a set of resilient solutions to the problems of vulnerable ecosystems, such as Asian Mega-Deltas, and thus, provides the hope for sustainable livelihoods for the community living in the Asian mega deltas.



## Exploring Social Resilience through Ethnographic Research



**Rapporteur name:** Rubina Rahman Chowdhury

**Organization:** SAJIDA Foundation

### Speakers

1. Dr. Rene Veron, Professor, UNIL, Switzerland
2. Dr. Samiya Selim, Advisor, Climate Change & Disaster Management, SAJIDA Foundation
3. Mohon Kumar Mondal, Executive Director, LEDARS
4. Dr. Siddiqur Rahman, Professor, Department of Anthropology, Jahangirnagar University

### Speaker 1: Dr. Rene Veron

The speaker discusses how their initial perceptions of the Sundarbans were limited to tigers, mangroves, and cyclones, which represent an outsider's perspective. They highlight how these perceptions were changed and challenged through on-ground experiences and interactions with the local communities. Ethnography is a very useful research tool, as it enables us to identify local practices on where and how local social resilience can be built. The speaker emphasizes the importance of considering the specific context of the Sundarbans when addressing climate change and socio-economic challenges. Different regions within the delta have unique land use practices and socio-economic factors, which necessitate context-specific coping and adaptation strategies.

### Speaker 2: Dr. Samiya Selim

An important takeaway is the emphasis on the importance of understanding the specific elements, knowledge, and mechanisms that enable people to build social resilience within their communities, going beyond a superficial understanding of skills or generic concepts of resilience. The discussion highlights the importance of adopting a holistic approach to resilience that goes beyond mere infrastructure and

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economic considerations. It recognizes the significance of ecological systems, social relationships, and institutional aspects in addressing the complex challenges in the Sundarbans delta. Ethnographic research is seen as a valuable method to delve deeply into complex, nuanced issues and understand how local communities are cultivating social resilience to address ecological and social changes in the Sundarbans delta.

### **Speaker 3: Mohon Kumar Mondal**

The speaker talks about how the Sundarbans face significant vulnerability to climate change, with frequent cyclones, flooding, and saline water intrusion causing adverse impacts on both the population and agricultural practices. Ethnographic research is emphasized as essential for understanding the unique context of the Sundarbans and tailoring resilience-building strategies to the specific needs and challenges faced by the local communities. Approximately 73% of the population faces water scarcity, particularly affecting women who must travel long distances for water collection. Male outmigration from the region is noticeable, leading to an increase in responsibilities for women. This underlines the importance of understanding and addressing the unique challenges faced by the local community in building resilience.

### **Speaker 4: Dr. Siddiqur Rahman**

Dr. Siddiqur Rahman emphasized in his speech that the ground-level challenges in Sundarbans include it being a disaster-prone area due to its geographical location and growing catastrophe globally. Landfall of 75% of disasters are in the Sundarbans area/southwest coastal region. Live and low-laying delta and high population density, fragile infrastructure, insufficient cyclone shelter.

### **Three key takeaways from the end of the session:**

1. The session acknowledges that the classical model of ethnography, where researchers spend years in the field, is no longer practical in today's rapidly changing world. It highlights the need for more focused and time-efficient approaches.
2. Speaker emphasizes on combining Micro and Macro Perspectives. Ethnography typically provides a micro-level understanding of a society. Researchers must also work to connect these micro-level findings to broader meso and macro-level contexts for a more holistic view of social phenomena.
3. Ethical considerations are paramount in ethnography, particularly in understanding complex issues. Building trust, fostering empathy, and establishing rapport with local communities are not only fundamental to meaningful research but they also serve as ethical imperatives, reinforcing the critical role of ethics in this field.

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## **Session Summary:**

The session offers a profound exploration of ethnographic research's crucial role in comprehending the intricate challenges faced in the Sundarbans region. Dr. Rene Veron initiates the discussion by recounting how the initial perceptions of the Sundarbans were confined to tigers, mangroves, and cyclones, primarily representing an outsider's perspective. However, these perceptions were significantly transformed and challenged through immersive experiences and interactions with local communities. The talk accentuates the value of ethnography as an invaluable tool for identifying local practices that foster social resilience, transcending superficial understandings.

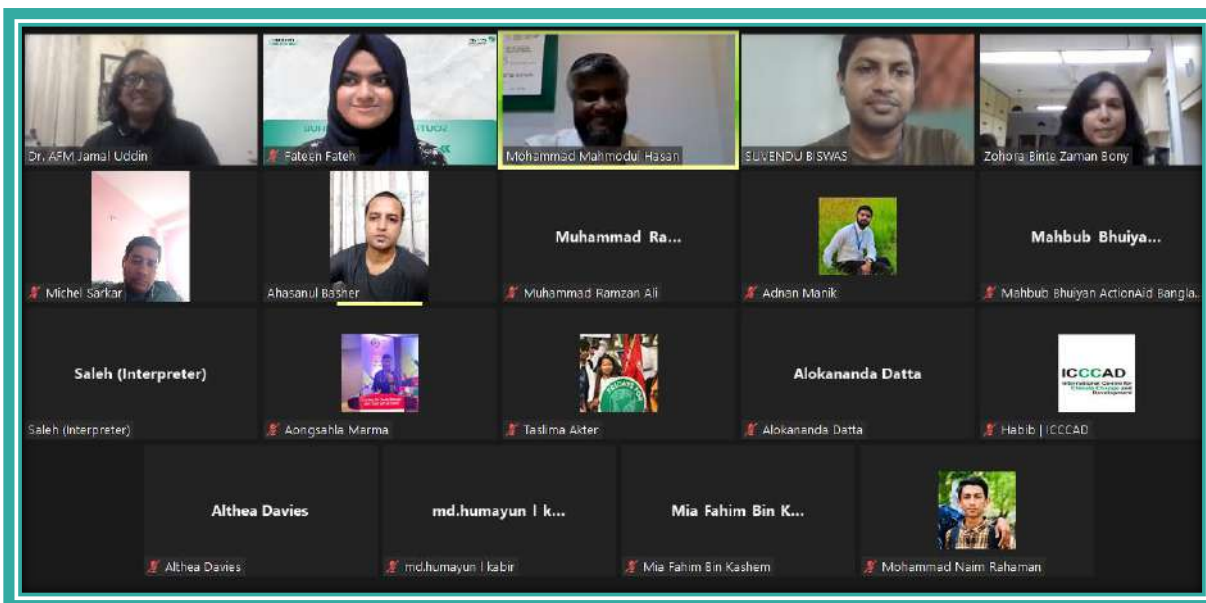
Dr. Samiya Selim advances the conversation by stressing the need to move beyond simplistic resilience concepts and embrace a holistic approach that integrates ecological systems, social relationships, and institutional aspects. Ethnographic research emerges as a key avenue for gaining profound insights into how local communities actively cultivate social resilience within the Sundarbans region, effectively addressing its complex issues.

Mohon Kumar Mondal delves into the myriad challenges confronting the Sundarbans, encompassing climate change, recurrent cyclones, and water scarcity. Ethnographic research is posited as indispensable for customizing resilience-building strategies tailored to the unique and specific challenges confronted by local communities.

Dr. Siddiquir Rahman underscores the Sundarbans' vulnerability due to its geographic location and frequent disasters, elucidating the indispensable role of ethnographic research. The importance of comprehending the distinct challenges and requisites of the local community is duly emphasized as a fundamental component of resilience-building in this region.

In the latter part of the session, the speakers discuss the evolving nature of ethnography, emphasizing the shift from classical models entailing protracted fieldwork to more targeted and time-efficient approaches. They underscore the necessity of bridging micro-level findings to meso and macro-level contexts to achieve a comprehensive understanding of social phenomena. Moreover, the session underscores the ethical aspects of ethnographic research, notably the vital role of establishing trust, nurturing empathy, and forging connections with local communities. These ethical imperatives are recognized as pivotal in grasping the complexities of the Sundarbans. In summation, the session underscores the indispensable role of ethnographic research in unravelling the intricacies of the Sundarbans and emphasizes the ethical and practical dimensions of this research approach.

## The Next Generation of Farmers: Youth Leading the Way in Agroecology



**Rapporteur name:** Alokanda Datta

**Organization:** ActionAid Bangladesh

### Speakers

1. Adnan Manik, Young Farmer, Kurigram
2. S M Jannatul Naeem, Young Climate Activist and Agroecology Promoter, Shatkhira
3. Ahsanul Bashar Shuvo, Environmental Activist and Agro- Entrepreneur, Manikganj
4. Professor Dr. A F M Jamal Uddin, Department of Horticulture, Sher-e-Bangla Agricultural University
5. Mohammad Mahmudul Hasan, Manager – Resilience and Climate Justice, ActionAid Bangladesh

### Speaker 1: Adnan Manik

Adnan Manik, a young farmer from Kurigram was trying to reduce the usage of chemical fertilizers and pesticides. He began to use organic fertilizer on a small scale to compare the outcome with chemical fertilizer. He noticed few differences in organic processes compared to using chemical fertilizers. Plants needed less water, their immunity system is better, food tasted well, and also the overall cost is reduced for not using pesticides. After being successful and satisfied of using organic products in small scale, Adnan later moved to his main field where he started agricultural production fully using organic fertilizers and organic pesticides. He also learned to make earthworm manure, vermicomposting, and bio-fertiliser with the consultation of the Upazila Agriculture Officer. In 2021, Adnan formed an agricultural cooperative to counter the crisis due to increased use of chemical pesticides. He says, farmers uses chemical pesticides without having any knowledge on which chemical/pesticide to use for which

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plant disease. They sell the products right after applying the chemical pesticide. So he is trying to encourage the use of indigenous seeds and mixed organic fertilisers among his community. Several farmers are now using mixed bio-fertilisers and reducing their reliance on chemical pesticides.

### **Speaker 2: S M Jannatul Naeem**

Naeem, a young climate activist and agro ecology promoter is from Shatkhira which is a coastal area of Bangladesh. His locality is frequently hit by natural disasters. Regular breach in dams of their area intrudes agricultural lands with saline water. After receiving training on agroecology from Global Platform, Naeem also received a small grant to practice what he learned. Later he provided that training to another 22 youth in his community with the help of Upzila agricultural extension officer. Naeem is now successfully producing vermicomposting to fulfil his own and his community's demands. He is also cultivating organic and saline-resilient crops while ensuring food security and the livelihood of his community. With existing agro ecological practices, Naeem feels that he has been able to reduce health and environmental hazards in his community. He wants to organize an agriculture fair in the near future to create mass awareness on agro ecological practices.

### **Speaker 3: Ahsanul Bashar Shuvo**

Ahsanul, a young Agro-entrepreneur from Manikganj decided to pursue agriculture to restore and preserve the agricultural environment. He went back to his village from the capital, only because he saw how the roadside plots which once were agricultural land- turned into buildings, industries, and brickfields that bothered him to his core. He took training from a Japanese company which introduced him to organic farming. Ahsanul has been cultivating chemical-free crops since 2011. He went through trial & error a couple of times and failed as well, but never gave up. Eventually, he engaged with farmers from his village who didn't have much land and oriented them on CRSA practices. Ahsanul started using indigenous seeds that are resilient to environmental challenges and promoted millet crops as a measure to combat global warming. Moreover, he consulted with his farmer friends from India and Sri Lanka and found easy ways to produce natural fertilizers and pesticides. Ahsanul introduced these easy organic ways to farmers of his village and asked them to produce organic agricultural products. He established 'Sanjiboni Krishi' - a virtual market selling organic products using online platform and linked the farmers with it. Ahsanul says it is highly important that we link farmers with markets to sell their organic agricultural products, otherwise, they won't feel motivated to produce organic goods. With lots of ups and downs, Ahsanul was finally able to create employment opportunities, and production of safe food using the zero-waste economic model. He wishes to open a knowledge exchange centre where school-going children along with their parents from urban areas will be invited to experience the process of agricultural production. Ahsanul concluded by saying that, winning the award from ActionAid helped his Facebook page to gain the trust of customers, and now he receives requests for organic products more than what his team of farmers can fulfil.

### **Speaker 4: Professor Dr. A F M Jamal Uddin**

Professor Dr. Jamal started his discussion by emphasizing two points on agro ecology, a) agricultural production without disturbing nature, and b) zero hunger. He continued by saying that in earlier times, everything in agriculture was nature-based practice. Unfortunately, now it's all about chemical fertilizers and pesticides. Farmers are more exposed to synthetic fertilizers and pesticides than organic processes. He stated, that even though ActionAid is trying to change the mentality of farmers through young people

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to use organic products instead of chemical ones, however a holistic approach is required from preserving indigenous seeds to harvesting crops. In addition, he has prioritized to consider the geographical area (hilly, coastal, wetland etc.) and weather pattern for appropriate agricultural practices. Dr. Jamal concluded by suggesting that SWOT analysis should be done on a large scale to understand the strengths of farmers. Moreover, young people should be capacitated on the full package of good agricultural practices. Finally, he stated that we should also adopt modern technologies in agriculture.

### **Speaker 5: Mohammad Mahmudul Hasan, Manager – Resilience and Climate Justice**

He started by pointing out that even though we have Bangladesh Agriculture Policy 2018, however, we are still fighting for the implementation of this. Hasan continued by discussing the 7 pillars of ActionAid's Climate Resilient Sustainable Agriculture. He stated that ActionAid is working to improve the lives of farmers for the last 2 decades. ActionAid forms farmers' groups, connects government officers from the Department of Agricultural Extension to help in capacity development, provides seeds, knowledge on vermicomposting etc. Over the years, ActionAid is also trying to build women's corner in traditional market so that the female farmers feel comfortable to sell their products to the local market. ActionAid is implementing multiple models, some of which are working, some are not. Mr. Hasan concluded by stating that ActionAid is trying to build a pool of trainers so that they can share their knowledge with others of their community. He emphasized on building a nexus between Academics, Practitioners, and young farmers.

### **Three key takeaways from the end of the session**

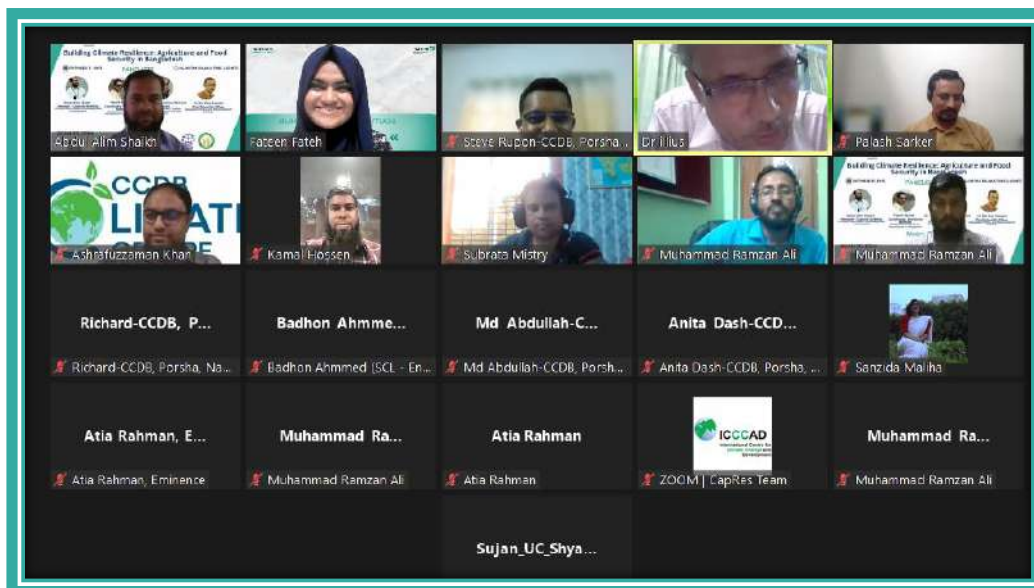
1. A holistic plan of agro ecology including linkage with the market is required to motivate farmers.
2. Large-scale capacity development of young people in good practices of agro ecology can help to shift from harmful agri-business to agro ecology and protect the environment.
3. Indigenous knowledge of applying fertilizers and pesticides should be disseminated among the young farmers. At the same time, young farmers should be encouraged to utilize these knowledge.

### **Session Summary**

The session featured inspiring stories of young agricultural innovators in Bangladesh. Adnan Manik transitioned to organic farming, observing benefits such as reduced water usage and improved plant immunity. Naeem, a climate activist, promoted agro ecology in a coastal area, mitigating saline water intrusion. Ahsanul focused on restoring agricultural lands, introducing organic practices and creating a virtual market. Professor Dr. Jamal emphasized a holistic agro ecological approach, considering geography and weather. Mohammad Hasan discussed ActionAid's efforts, including capacity development, forming farmers' groups, and building a nexus between academia, practitioners, and young farmers. Key takeaways stress holistic agro ecology plans, widespread capacity development, and the dissemination of indigenous knowledge.



## Building Climate Resilience: Agriculture and Food Security in Bangladesh



**Rapporteur name:** Faten Fateh

**Organization:** CCDB and Bangladesh wheat and maize research institute

### Speakers

1. Palash Sarkar, CCDB
2. Dr. Ilias Hossain, Bangladesh wheat and maize research institute

### Speaker 1: Palash Sarkar

Palash Sarkar discussed an agricultural adaptation initiative in coastal areas of Bangladesh that addressed multiple challenges, including salinity, cyclones, and water scarcity, by implementing context-based adaptive solutions. It is a collective approach with the local community, government agencies, and NGOs, which was key to its success. The initiative took a long term approach to adaptation and he emphasized that this is essential for achieving real impact. He also recommended that the government should consider policies to make canals more accessible to farmers as this would help to improve water management and also it will reduce salinity levels in the soil. By bringing together various stakeholders, they were able to identify problems, plan for adaptive solutions, and distribute responsibilities. This is essential for ensuring that adaptation measures are comprehensive, effective, and sustainable.

Palash emphasis on the need for a long-term approach to adaptation is well-placed. Climate change is a complex and multifaceted problem, and there is no quick fix. Adaptation measures need to be designed and implemented with a long-term view in order to be truly effective. His recommendation that the government consider policies to make canals more accessible to farmers is also important. Canals play a vital role in water management in coastal areas of Bangladesh. By making canals more accessible, the government can help to improve water management and reduce salinity levels in the soil. This would make it easier for farmers to grow crops and would help to protect their livelihoods.

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## **Speaker 2: Dr.Illias Hossain**

Dr Illias started his presentation about discussing the climate challenges related to climate change, including temperature rise, groundwater depletion, and erratic rainfall patterns. Industrial activity is also affecting the region with specific numbers related to industrial and agricultural activities. Climate variability is evident in fluctuations in maximum and minimum temperatures over 30 to 40 years. The water table is decreasing by 2 to 3 feet every year, leading to concerns about water availability. He focuses on climate-resilient technologies developed over 30 years. These technologies aim to address various climate-related challenges. He has developed several crop varieties, including heat and drought-tolerant varieties. He also advocates for crop rotation, zero tillage, crop residue management, multi-cropping, and rainwater harvesting. These technologies have led to savings in water, labor, fuel, and reduced carbon dioxide emissions. They have also resulted in increased crop productivity, and farmers are adopting these practices. His work is essential for building climate security in Bangladesh. The region is vulnerable to climate change, and technologies are helping farmers to adapt to the challenges they face. His work is also helping to reduce the environmental impact of agriculture. He focus on a collective approach is also important. He works with farmers, government agencies, and NGOs to ensure that his technologies are adopted and implemented effectively. This collaborative approach is essential for achieving real impact.

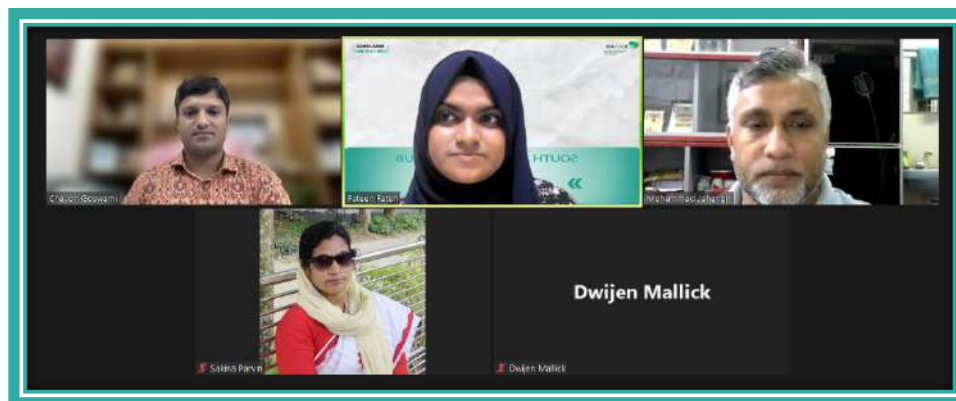
### **Three key takeaways from the end of the session:**

1. A collective approach is essential for successful adaptation. This involves bringing together various stakeholders, including the local community, government agencies, and NGOs, to identify problems, plan for adaptive solutions, and distribute responsibilities.
2. A long-term approach is necessary for achieving real impact. Climate change is a complex and multifaceted problem, and there is no quick fix. Adaptation measures need to be designed and implemented with a long-term view in order to be truly effective.
3. Climate-resilient technologies can play a vital role in adaptation. These technologies can help farmers to cope with the challenges of climate change, such as temperature rise, groundwater depletion, and erratic rainfall patterns.

### **Session Summary:**

Palash's comprehensive agricultural adaptation initiative in coastal areas of Bangladesh is a good example of a collective approach to adaptation. His initiative had been successful in addressing multiple challenges including salinity, cyclones, and water scarcity. Dr. Illius's work on climate-resilient technologies is another example of the importance of technology in adaptation. He has developed several crop varieties, including heat and drought-tolerant varieties, and he advocates for other climate-smart practices such as crop rotation, zero tillage, and crop residue management. His work has resulted in increased crop productivity and reduced environmental impact. The work of both Palash and Dr. Illius is essential for building climate security in Bangladesh. The region is vulnerable to climate change, but these speakers are showing that it is possible to adapt and build a more resilient future.

## Climate Change Adaptation and Mitigation through Improved Agricultural Practices



**Rapporteur name:** Fateen Fateh

**Organization:** Bangladesh Agricultural University

### Speakers

1. Dr.Chayon Goswami, Professor, Bangladesh Agricultural University
2. Dr.Mohammad M R Jahangir, Professor Bangladesh Agricultural University

### Speaker 1: Dr Chayan Goswami

Dr Chayan started his presentation by describing the shifts in various aspects of the Earth's climate system, caused primarily by human activities such as greenhouse gas emissions, deforestation and industrial processes. Climate change has widespread consequences which is affecting various sectors, including agriculture, human health, water resources and natural areas. It leads to rising temperatures, changes in rainfall patterns and rising sea levels, resulting in health hazard, disruption in ecosystem and water scarcity. He mentioned agriculture is particularly vulnerable to climate change, leading to decreased crop yields, increased irrigation demands and reduced water availability. The presentation highlights three major consequences on agriculture: salinity, drought, and extreme floods. Salinity increases salt content in soil and water, also impacting plant growth, causing sterility, reduced grain yield and also economic losses. Approximately one-third of agricultural land in Bangladesh is affected by salinity. Drought stress happens when plants face prolonged water scarcity, leading to significant land loss and ecosystem damage, with northern parts of Bangladesh being particularly vulnerable. Sudden floods and also the extreme floods are responsible for significant damage to crops, livestock, and agricultural productivity. These floods account for over half of agricultural disasters and can result in higher food prices and waterlogging. The presentation emphasises the urgent need for climate-resilient agricultural practices to address the challenges posed by climate change, especially in highly vulnerable regions like Bangladesh. Climate-resilient agriculture involves practices and techniques such as crop diversification, improving soil health, and reducing greenhouse gas emissions. Strategies for mitigating

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climate change in agriculture include crop land management, livestock management, and proper manure management. The presentation discusses specific technologies and approaches for resilient agriculture, including improved crop varieties, crop diversification, soil and water conservation, agroforestry, and vertical agriculture. Vertical agriculture, specifically hydroponics, is highlighted as a method to maximize space utilization and water efficiency. The presentation includes research findings on the growth of various crops in hydroponic systems, showing that modifying nutrient concentrations can affect biochemical and nutritional compositions. His presentation suggests prioritizing greenhouse gas emission reduction, providing structured training, implementing climate-resilient agriculture practices nationwide, and fostering collaboration among various stakeholders. The ultimate goal is to achieve a triple win: enhanced productivity, resilience, and carbon sequestration to mitigate the impacts of climate change on agriculture and other sectors. Dr. Chayon presentation emphasizes the critical importance of adapting and mitigating climate change in agriculture through innovative and resilient practices, especially in regions highly susceptible to climate-related challenges like Bangladesh.

### **Speaker 2: Dr.Mohammad M R Jahangir**

Dr. Jahangir's presentation discusses the challenges of climate change and its impact on agriculture, with a specific focus on soil management and greenhouse gas emissions in Bangladesh. Current agricultural practices contribute to increased greenhouse gas emissions, soil degradation and nutrient depletion. The inefficiency of nitrogen fertilizer use is a major concern, with a significant portion of applied nitrogen being lost to the atmosphere and water bodies. There is a need to strike a balance between reducing chemical fertilizer use and ensuring adequate fertilizer application. Soil fertility is crucial for increasing crop production and improving soil management is essential to address the global challenge of food insecurity. Soil has the potential to function as a carbon sink, sequestering more carbon from the atmosphere and mitigating climate change. Agricultural practices that increase soil carbon sinks, reduce greenhouse gas emissions and contribute to biomass feedstock for energy use can be cost-effective ways to combat climate change. Practices such as reduced tillage, crop rotation, cover cropping, erosion control and efficient irrigation can help increase soil carbon content and sequester carbon. Rice paddies, with their anaerobic conditions, offer unique opportunities for carbon sequestration and efficient rice farming can reduce chemical fertilizer and water usage. He emphasized the importance of improving soil management practices to mitigate climate change, increase food production, and protect the environment in the face of growing agricultural challenges. The presentation discussed various agricultural practices and management strategies aimed at mitigating greenhouse gas emissions and promoting sustainable agriculture. He highlighted the importance of conservation agriculture, the use of biochar, composting, green manure, and crop rotation to reduce emissions, enhance soil health, and increase crop productivity. The presentation emphasized the potential of conservation agriculture to improve soil quality and reduce the need for chemical fertilizers. Additionally, he mentioned the role of bosur, a type of anaerobic organic matter, in enhancing soil quality and reducing nutrient deficiencies.

Dr. Jahangir also discussed the contribution of these practices to climate-smart agriculture. Climate-smart agriculture aims to reduce chemical and fertilizer input, sustain soil health, enhance crop production, and decrease greenhouse gas emissions. These practices help in reducing fossil fuel consumption and, therefore, contribute to climate smart agriculture by maintaining a balance between production, soil health, and environmental conditions.

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### **Three key takeaways from the end of the session**

1. Climate change is a major threat to agriculture, especially in vulnerable regions like Bangladesh.
2. Climate-resilient agricultural practices are essential to address the challenges posed by climate change.
3. Improving soil management is crucial for mitigating climate change, increasing food production, and protecting the environment.

### **Session Summary**

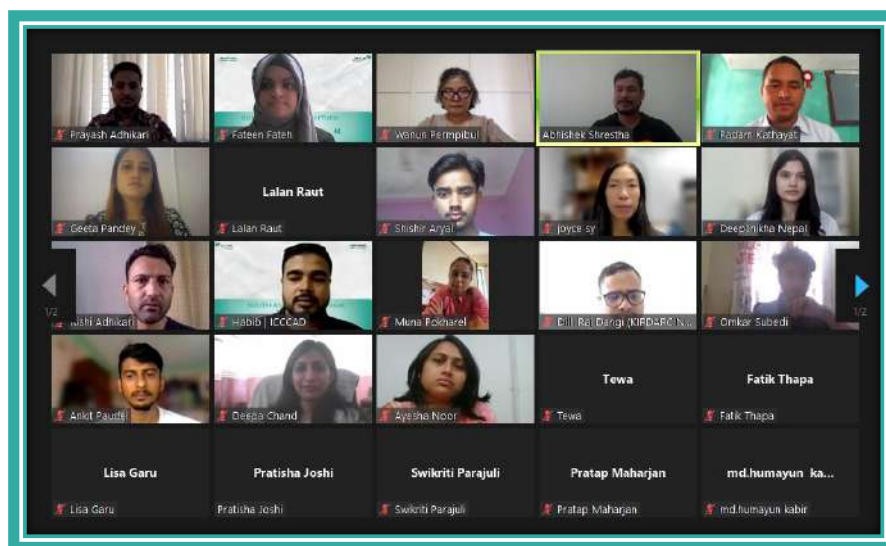
Dr. Chayon Goswami and Dr. Mohammad M. R. Jahangir discussed the importance of climate-resilient agriculture and soil management in addressing the challenges caused by climate change. Dr. Chayon shared about specific technologies and approaches for resilient agriculture such as improved crop varieties, crop diversification, soil and water conservation, agroforestry and vertical agriculture. Dr. Jahangir focused on the need to improve soil management practices, such as reduced tillage, crop rotation, cover cropping, erosion control, and efficient irrigation. He also shared the potential of conservation agriculture to improve soil quality and reduce the need for chemical fertilizers. Both speakers also emphasized the importance of collaboration among various stakeholders to achieve the ultimate goal of a triple win: enhanced productivity, resilience, and carbon sequestration.

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# **Humanitarian Action and DRR (HADRR)**



## Stories from ground and communities suffering from Loss and Damage in Mountains and Lowlands of the Global South



**Rapporteur name:** Dilli Raj Dangi, Program Coordinator, KIRDARC Nepal

**Organization:** Karnali Integrated Rural Development and Research centre (KIRDARC) Nepal, Digo Bikas Institute, Climate Watch Thailand, Mission East, Loss and damage Youth Coalition

### Speakers

1. Geeta Pandey: Director-Policy Advocacy and Research, KIRDARC Nepal
2. Surja Bam: Landslide affected participant, Palata Rural Municipality
3. Prayas Adhikhari: Senior Program Office- Digo Bikas Institute
4. Lalan Prasad Raut, Ward Chairperson-Tilathi Koiladi Municipality, Saptari
5. Wanun Permpibul: Director, Climate Watch Thailand
6. Abhisekh Shrestha, Program Director- Digo Bikas Institute

### Speaker 1: Geeta Pandey

Ms. Geeta presented findings based on Loss and Damage Study carried out at Palata Rural Municipality by Mission East and KIRDARC Nepal. Loss and Damage (L&D) Study carried out at Palata Rural Municipality, Kalikot district in Nepal assessed the significant impacts resulting from climate change-induced loss and damage representing the case of October 2023 landslides and flood in Karnali Province. Total estimated loss and damage is NPR. 47.36 million Significantly higher loss than a total annual budget of local government. Each household had an economic loss of about eight hundred thousand Nepalese rupees. The region has been witnessing excessive cloud burst, irregular and late monsoon

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rainfall, drought are the key causes to cause loss and damage in the communities. There have been large scale of property loss and damage in agriculture land are the key areas of damage. In the region, migration/shifting the area and support from the communities during the landslides are major coping strategies. There has been limited efforts from the government side. 90% of women were directly affected by the last year's disaster; particularly, there has been more engagement of women in upbringing of children, take care of elderly at home, cooking and other domestic chores. There is urgent need of establishment of fund or L&D compensation at local level.

### **Speaker 2: Surja Bam**

Landslide affected participant, Palata Rural Municipality Surja represents one of the affected families from the last year's (October 2022) landslides and flood. In particular, she lost her house, livestock, and crops. Everything was lost. She is a single mother living with three children during that time. Living as a single mother is also challenge as there has not been multiple sources of income for the family. Her family is still living in a temporary shelter (tarpaulin) even around a year later. She is a single mother who is living with the earning from daily wages. Surja is unable to afford for constructing her house due to poverty; hence, expecting others to support her. Taking care of children (three) has been major challenge. Arable land was swept away by the river; hence, her family is unable to farming at her farmland anymore; hence, she is compelled to search for works in daily wages. She has not received any support. She has been buying food items from local market on loan. She demanded for supporting construction of house. Her elder daughter eloped recently as her daughter considered that she did not want to be burden for the family. There are many families affected in the communities who are yet to receive support or fully return back to normal live.

### **Speaker3: Prayas Adhikhari**

Prayas presented a case of Hanumannagar Kankalini Municipality, Saptari district representing impacts caused in lowland from the excessive rainfall in October 2021. The low land has high production yields of key crops like paddy. From the rainfall, larger scale of damage was observed from the rainfall in agriculture as paddy worth of 1.4 million USD (7250 tons of paddy) was damaged from this single incident. There has been cases of irregular and excessive rainfall in the latest years. And, farmers who are completely dependent on agriculture. Those affected farmers are yet to be supported by the duty bearers even after 1.5 years later.

### **Speaker 4: Lalan Prasad Raut**

Being one of the affected family member and local government representative has been challenging to compensate to those affected families from the flood. From the flood, mostly crops and vegetable of farmers who were producing on lease of farm land. Community people are not much aware about climate change and global warming; hence, awareness to the people has to be increased on impacts of climate change; mitigation and adaptation actions, etc. Due to extreme heat, schools during summer were shut for more than a week. And, during winter also excessive cold is observed by the people. Local

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government does not have adequate capacity, policy, plan and budgeting. In recent years, due to excessive and irregular rainfall, drought are causing excessive damage in the agriculture and daily lives. Similarly, Chure region's environment has been degrading that has also affected the region which is connected with highland/mountain; hence, we should pay attention to these region as well regarding glacial Lake Brust. Mental stress is observed in the communities due to impacts of climate change as they are struggling to meet the daily needs.

### **Speaker 5: Wanun Permpibul**

Wanun presented a case of Beyond Adaptation: Loss and Damage of Coastal Communities of Thailand based on the interventions carried out in the coastal area. Not only agriculture in the farmland but also affecting coastal areas in the fishing communities by the climate change impacts. Adaptation and mitigation communities from the local initiative of plantation of mangrove trees and bamboos in the coastal are which are vulnerable. Reclaiming the territory encroached by sea has been key result from the intervention. Sea level increment has encroached the land affected to the families living in the coastal region and dependent in the fishing sector. Maintaining sources for livelihood has been major areas of intervention so that communities would be able to preserve fishing areas. Mangrove plantation has contributed to protect habitat for the marine diversities. Carried out in phase wise starting from 2013: it has been noticed that bamboo and mangrove are really having grip to tackle smaller waves of the sea. Resources, attempts and efforts are still ongoing in this second phase to tackle the impacts in the coastal area. If climate change impacts are still increased, then, it will be difficult for living for the coastal communities; Traditional knowledge has to be acknowledged by the government for carrying out adaptation and mitigation actions. Challenge of bringing mangrove and bamboos saplings/seedlings from other areas has been a challenge. Communities are putting lots of efforts as per their level. Communities are struggling due to the impacts of climate change despite their efforts of adaptation and mitigation actions. Their efforts are limited in combating this global crisis of climate change; hence, collective and joint actions are required by pulling global attention. Financing is needed from those countries who have contributed for the global warming.

### **Three key takeaways from the end of the session**

1. Communities from Himalayas, lowland and coast areas have adversely been affected due to climate change that includes drought, excessive (cloud burst) and irregular rainfall, etc. resulting massive loss and damage in people, property, livestock, agriculture, physical infrastructure.
2. Government (duty bearers) not having adequate and integrated efforts at policy, planning and programing at local to global level to address the adverse impacts of climate change.
3. Join advocacy actions at global level are necessary for claiming climate finance to those communities who have been facing adverse impacts of climate change.

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## Session Summary

Loss and Damage (L&D) Study carried out at Palata Rural Municipality, Kalikot district in Nepal assessed the significant impacts resulting from climate change-induced loss and damage representing the case of October 2023 landslides and flood in Karnali Province. Total estimated loss and damage is NPR. 47.36 million Significantly higher loss than a total annual budget of local government. Excessive cloud burst, irregular and late monsoon rainfall, drought are the key causes to cause loss and damage in the communities. Property loss and damage in agriculture land are the key areas of damage. Migration/shifting the area and support from the communities during the landslides are major coping strategies as there has been limited efforts from the government side.

Ms. Surja Bam: Surja Bam, representative of affected family, Palata Rural Municipality, Kalikot district Representing highland (mountain) was affected by the landslides of October 2022. Her family is still living in a temporary shelter (tarpaulin) even around a year later. She lost everything (house, property, agriculture land, crops, cattle, etc.) from the landslides and flood. She is a single mother who is living with the earning from daily wages. Surja is unable to afford for constructing her house due to poverty; hence, expecting others to support her. Taking care of children (three) has been major challenge.

Prayas Adhikari, Digo Bikas Institute

A case of of Hanumannagar Kankalini Municipality, Saptari district representing lowland as the community was hard hit by the excessive rainfall in October 2021. High production key crops like paddy was damaged with the worth of 1.4 million USD (7250 tons of paddy) was damaged. Damage in agriculture due to flood caused by irregular and excessive rainfall.

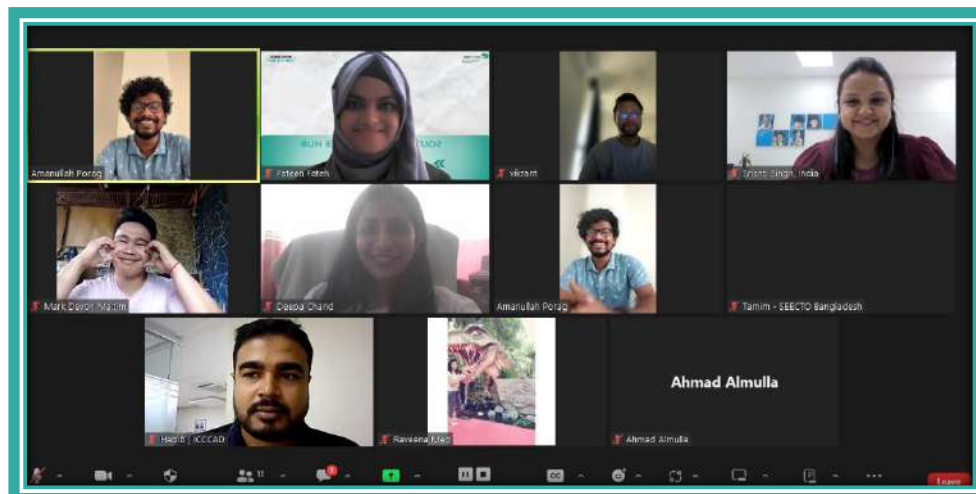
There has been significant adverse effects of excessive rainfall and irregular rainfall, drought are causing excessive damage in the agriculture and daily lives. There have cases of school shutting down due to excessive heat. Local government, federal government and donor agencies are not been present there for support in the need. Vegetable and crops were damaged mostly. Local government does not have adequate budget to address the problem. This region is connected with Highland/mountain; hence, we should pay attention to these regions as well regarding glacial lake burst. Metal stress is observed in the communities. Stories from the coastal communities is also similar as of mountain and lowland region as fishing communities of the coastal area are affected. Adaptation and mitigation communities from the local initiative of plantation of mangrove trees and bamboos in the coastal are which are vulnerable. Reclaiming the territory encroached by sea has been key result. Maintaining sources for livelihood has been major areas of intervention so that communities would be able to preserve fishing areas. Mangrove plantation has contributed to protect habitat for the marine diversities. If climate change impacts are still increased, then, it will be difficult for living for the coastal communities. Traditional knowledge has to be acknowledged by the government for carrying out adaptation and mitigation actions. Collective and joint actions are required by pulling global attention; financing is needed from those countries who have contributed for the global warming.

The session featured representatives from Nepal and Thailand sharing their experiences and challenges related to loss and damage caused by climate change-induced disasters. The session emphasized the diverse impacts of climate-induced loss and damage on different communities in Nepal, spanning highlands, lowlands, and coastal areas of Thailand. Shared stories from local communities facing similar

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challenges as those in the mountain and lowland regions. The discussions highlighted the urgent need for financial and governmental support, as well as the importance of local initiatives, traditional knowledge, and collaborative global actions to address these challenges effectively. The session called for collective global attention and financing from countries that have contributed to global warming to address the increasing impacts of climate change. In preparation for COP28 in the UAE, it aimed to advocate for rational compensation on the pressing issue of Loss and Damage, underscoring its significant climate-induced impacts. Additionally, Nepal will strengthen alliances with vulnerable countries to collectively address loss and damage, amplifying their voice in international climate negotiations.

## Building Resilience through Youth Empowerment: Fusing Asian Youth Potential with COP28 Resilience Goals



**Rapporteur name:** Nafis Intiaj Hossain

**Organization:** Asian challenges Empowerment (AYE)

### Speakers

1. Sristy , Director – Climate Change, Urban Development and Disaster Risk Management Programme | BRAC
2. Tamim, Director – Sustainable Environment Empowerment and Community Transformation Organization (SEECTO)
3. Diksha Subedi, Programme Head – Urban Development Programme | BRAC
4. Vikrant Shasta, Programme Head – Climate Change Programme | BRAC

### Speaker 1: Sristy

Asian Youth Empowerment (AYE) has different goals in 2023, they are develop a 3-year asia-level Youth Action Plan, co-organize the Asia-Pacific Regional COY, build capacity of 250 Asian Youth through 4 sessions, mobilize at least 50 Asian youth for COP28 and RCOY and knowledge dissemination on CC impacts in the region via social media (1k). Given the abundance of research on the effects of climate change, such as the Climate Change Risk Index and the World Bank's recent study on which the South Asian region received special attention, it is now essential to concentrate more on youth empowerment than just the victims of those effects in order to enable the youth to take the lead in decision-making. Making the resilience initiatives more socially inclusive, it is necessary to form the policies and planning more local based. This will include concerns about how local communities could be part of local planning. Moreover, we need to make arrangement in a way that some youth can take part in the national planning processes so that the next step could be to include the youth towards the global policy as well.



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### **Speaker 2: Tamim**

Bangladesh is primarily an agricultural and energy-producing nation, and while it produces less than 1% of the world's greenhouse gas emissions, it ranks ninth in terms of the number of deaths from climate-related disasters and seventh in terms of the global climate risk index. As a result, sustainable agriculture in Bangladesh aims to preserve social and economic equity, promote environmental stability, and create commercially viable solutions. Biogas plants are a vital necessity in Bangladesh to harness renewable energy from organic waste, providing clean cooking fuel and reducing environmental pollution while promoting sustainable agriculture practices. The necessity of the "No to Fossil Fuel" movement cannot be overstated. With the looming threat of climate change and its dire consequences, transitioning away from fossil fuels is imperative to protect our planet. Embracing clean and sustainable energy sources is not just a choice; it's a moral obligation to ensure a sustainable future for generations to come.

### **Speaker 3: Diksha Subedi**

Climate change is not only a regional issue but a global issue which is affecting the young people particularly in developing countries like Nepal and in addition, climate change mostly affects children and young people with immediate and long term effects. The CDCC (Child Centered Disaster Risk Reduction and Climate Change) research states that from 2015 to 2020, children and youth accounted for half of all deaths and injuries caused by climate risks. Therefore, even though adolescents have the ability to effect change and address climate change, being a young person is difficult. In Nepal, gender parity is a significant issue wherever there is a system that employs both men and women. When working at the lowest levels, women suffer more than men do, and their credibility is increasingly called into doubt. Increasing access to training and developing capacity will contribute to gender inclusion and the dissemination of the true belief that women's empowerment is crucial.

### **Speaker 4: Vikrant Shasta**

Climate change is a complex and multifaceted issue that encompasses various scientific, environmental, and socio-economic aspects. Many young individuals may not have had the opportunity to engage in in-depth educational programs or access accurate information about the subject. This lack of awareness can hinder their ability to grasp the urgency and gravity of climate change, making it challenging for them to advocate for and implement meaningful solutions. In order to facilitate the young's transition to a more active engagement, it is necessary to foster collaboration between the youth and policy makers. Furthermore, we should make sure that all young people receive financial aid in the form of scholarships and other perks, since this would undoubtedly remove any financial hurdles, particularly for those from low-income homes. Including the voice of young people in international events is a difficult endeavor for a variety of reasons, such as badge monopoly, which limits the number of young people who may participate in policy debates by forcing them to watch these events as observers. According to Vikrant, there are over 10,000 volunteers in one of his groups, but there are only two badges among them. As a result, it is impossible to maintain the ratio, and we must create a very particular program for the kids in order to avoid impeding their involvement.

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### Three key takeaways from the end of the session

1. Gender inclusivity is of paramount importance in the fight against climate change. Women and men often experience the impacts of environmental degradation differently, and gender disparities can influence vulnerability and resilience. Inclusive climate policies ensure that women's voices and perspectives are heard, promoting more equitable and effective solutions.
2. Climate education for youth is essential as it equips the next generation with the knowledge and awareness needed to address the climate crisis effectively. Their participation in international events, like climate conferences, brings fresh perspectives, urgency, and an unwavering commitment to drive meaningful change. Engaging youth in these forums not only empowers them to influence global policy but also strengthens the global movement for a more sustainable and resilient future.
3. The necessity to reduce fossil fuel exploitation is paramount in the face of climate change's escalating threats. Shifting our focus towards renewable energy sources is imperative to decrease greenhouse gas emissions, combat global warming, and ensure a sustainable future for generations to come. Transitioning to renewables not only mitigates environmental harm but also promotes energy security, economic growth, and job creation in the green energy sector.

### Session Summary

Due to the South Asian region's extreme vulnerability and ongoing, severe climate change-related distress, this session will address **two crucial initiatives** to tackle the intensifying climate change related challenges: the “Asian Youth Empowerment for COP campaign” and the “South Asia Regional Resilience Hub”? By coordinating youth-driven solutions with resilience hub aims, the latter will provide a connection between the empowerment of Asian youth and the real-world applications of resilience and improvements, with an emphasis on humanitarian action and catastrophe risk reduction.

The session envisages a powerful convenient convergence of Youth Innovation and resilience shaping COP 28's resilience discourse and also catalysing a more sustainable and secure future. Through this hour long session it is aimed to unite these parallel efforts empowering Asian youth as “Agents of Change” within the broader context of COP 28 resilience agendas.

#### Key Ideas of the Session:

- Since the goal is to interlink the Asian Youth Empowerment (AYE) with the COP, Srity, a climate change specialist presents a short presentation where she describes how the youth of a community can be a part of the community's decision making process especially the decisions which are related to climate change.
- As the official children and youth constituency of the United Nations Framework Convention on Climate Change (UNFCCC), AYE serves as a YOUNGO program that aims to empower and mobilize Asian youth to engage meaningfully in the Conference of Parties. In addition, AYE concentrates on the decision-making processes related to climate change, seeking to unite young people on a common platform to enable them to engage in substantive and productive dialogue on the subject.

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- The five main pillars of AYE's approach are as follows: Youth Consultations to educate youth about global policy processes; Partnership and Networking to facilitate collaboration with organizations and stakeholders in regions of the world that AYE cannot reach; Fundraising to support youth initiatives; Youth Consultations to make the youth learn about the global policy processes and Capacity Building Workshops to help young people comprehend not only global policy processes but also some aspects of their own country.
  - Tamim is a climate activist working from 2018 and is the founder of the Sustainable Environment Empowerment and Community Transformation Organization (SEECTO). He described one of his recent projects which he is implementing to improve climate resilience and this project has a theme called, “renewable energy”. The project consists of a model of a biogas plant that will be capable enough to meet the needs of single households. . To get a solution to this problem it is required to raise awareness and movements for instance SEECTO is used to conduct, the “no to fossil gas” or “tomorrow is too late” movements. Aside from this, SEECTO is formulating a model to build a 3.8 cubic meter biogas plant requiring a 7 kg cow dung which could efficiently supply four to five houses. This will create an eco-friendly agricultural practice for which 30-35000 BDT needs to be spent. This approach can be a permanent solution for 10 years which is environment friendly and will reduce the labor required.
  - Diksha Subedi from Nepal is a passionate social environmental and climate activist, spreading awareness, advocating policies and taking action for environmental and climate issues. She's the founder of the “Youth action for sustainable and Eco Neal” which aims to empower younger generation to be a part of climate change.
  - Since climate change is majorly impacting the youth and the children and they are the major victims, it is necessary to empower them by different programmatic approaches which will enlighten, empower them and help mitigate the impacts of climate change also. This increased the passion of Diksha in working for the favour of the youth about which she mentioned about her journey in the field of working for the youth. Diksha has been working for four years in different climate related field, youth consultations which mainly spoke for climate change mitigation, adaptation and technology. In Nepal there are multiple organizations that work for the youth such as NYCA (Nepalese Youth for Climate Action) which is a youth led organization mainly engaging in tackling climate change, and the Youth Action for Sustainable and Eco Nepal is founded by Diksha where the school children are mainly focused those who studies from 6<sup>th</sup> to 10<sup>th</sup> standard and they are given training on some basic skills development like how to reuse plastic for example.
  - Vikrant Shasta focuses on climate education and what are the challenges the youth face in working for climate change due to the lack of a sufficient amount of climate education. A significant portion of the youth lack a comprehensive understanding of climate change and it causes a fare reaching impact on knowledge gap. Moreover, the language of educational system poses a barrier in directly participating, contributing in the international events and dialogues.

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## Integrating a Multi- Sectoral Approach for Enhancing Resilience, Humanitarian Action and Disaster Risk Reduction



**Rapporteur name:** Pallavi Dhandhanian

**Organization:** Miyamoto International

### Speakers

1. Dr Rave Aulakh, Project Director- USAID support to CDRI, Principal- Miyamoto International
2. Dr Rajasekar Uma Maheshwaran, Advisor to CDRI-Urban resilience
3. Amit Tripathi, Advisor to CDRI- Power sector
4. Kiran Gowda, Advisor to CDRI- Transport sector
5. Dr Aparajita Suman, Advisor to CDRI- Knowledge Management
6. Viraj Desai, Advisor to CDRI- Communication specialist

### Speaker 1: Dr Rave Aulakh

Miyamoto International stands as a global leader in Multi-hazard Engineering and Disaster-Risk Management with a Humanitarian Focus. The company leverages the expertise of engineers and data scientists, combined with the coordination skills of international development professionals, to deploy experts to over 100 disaster scenarios.

1. The partnership with USAID involves providing financial, technical, and institutional support to strengthen CDRI's objectives. This includes deploying key sector experts to address infrastructure resilience needs.

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### **Speaker 2: Dr Rajasekar Uma Maheshwaran**

Dr. Maheshwaran discussed the challenges and risks associated with urban resilience, particularly in the context of natural hazards and disasters. He highlighted the impacts of heat waves and floods on cities, emphasizing the effects on infrastructure, transportation systems, and public services. Integrated planning, improved governance in risk management, and data-informed decision-making are essential for enhancing urban resilience.

### **Speaker 3: Amit Tripathi**

Noting a more than 40% increase in disasters as per the GAR Report expected during the time frame of Sendai framework, highlighting the need for increased focus on resilience in critical infrastructure, particularly in the energy sector. Annual losses are estimated to be around \$82 billion during extreme events. Identifying the critical assets that are greater at risk to prioritize the investments and updating the norms, guidelines, and design considerations as per the latest climatic conditions. Stressing the importance of energy equity considerations, noting that vulnerable communities often bear the brunt of such events.

### **Speaker 4: Kiran Gowda**

Focusing on the need for building resilience into transport infrastructure but considering several barriers, including a lack of understanding among authorities, funding issues, and uncertainty over the viability of such interventions for financial institutions. Highlighting the need for effective communication and collaboration among all stakeholders to address the challenges for resilience of the transport infrastructure. Considering the broader context of land use planning and its potential impact on the jurisdiction of transport systems.

### **Speaker 5: Dr Aparajita Suman**

Emphasizing the need for mainstreaming knowledge management into all processes and building capacity for monitoring, evaluation, and learning. Highlighting the importance of quality data for accountability and program planning. Stressing the challenge of translating knowledge into action, especially in complex & multi-stakeholder programs, is key to enhancing resilience, humanitarian action, and DRR.

### **Speaker 6: Viraj Desai**

Discussing the use of social media, website revamps, and microsites to attract attention and consistency from various stakeholders for risk communication and advocacy. Emphasizing the importance of adapting to digital media trends and increasing collaterals for different sectoral programs.

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## Three key takeaways from the end of the session

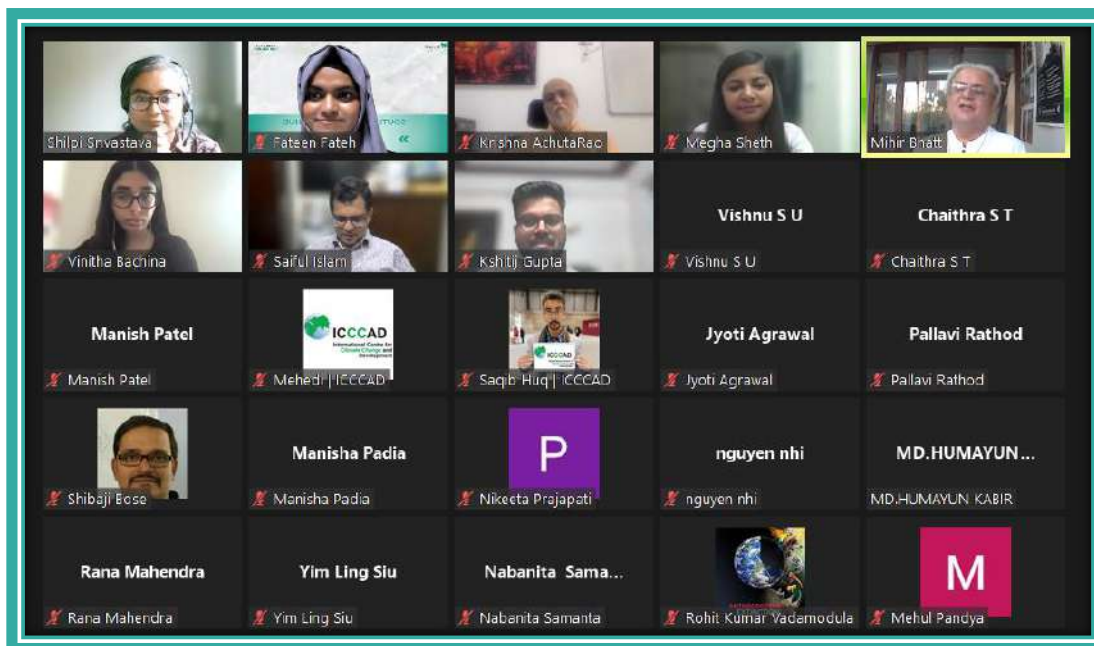
1. **Intersectoral Synergy for Resilience:** The essence of resilience lies in intersectoral collaboration. Experts from various sectors emphasized the systemic seepage of resilience and risk between sectors, and the necessity of working together to understand climate risks and adaptation strategies. This collaboration fosters long-term planning, ensuring a holistic approach to disaster risk reduction.
2. **Knowledge-Driven Multi-stakeholder Resilience:** To enhance resilience, humanitarian action, and disaster risk reduction across diverse stakeholders, integrating knowledge and collective experiences is pivotal. An adaptable Monitoring, Evaluation, and Learning (MEL) framework is the bedrock, informing and influencing policy and practice to boost overall resilience approach.
3. **Digital Infrastructure for Collective Resilience:** In an evolving risk landscape characterized by climate change and natural disasters, digital infrastructure (including early warning systems) becomes crucial and must adapt to address multi-sectoral challenges. Governments and stakeholders should prioritize resilient connectivity infrastructure, encourage collaboration, and invest in versatile networks to safeguard against risks and disasters.

## Session Summary

The session highlighted commendable disaster risk reduction work undertaken by Miyamoto International in the field of Humanitarian Action and Disaster Risk Reduction (DRR). It brought together experts from various domains, aiming to explore the critical role of various sectors, including Transport Sector, Telecom Sector, Power Sector, and Urban Resilience, Knowledge Management, and Communications in enhancing humanitarian action and resilience of critical infrastructure through effective disaster risk reduction strategies. The panel discussion provided valuable insights into how collaboration, innovation, and integration across these sectors can contribute to building disaster-resilient communities and infrastructures, holistically.



## Preparing for Climate Extremes: Lessons on Adaptation from South Asia



**Rapporteur name:** Fateen Fateh

**Organization:** Institute of Development Studies, University of Sussex (UK), All India Disaster Management Institute (AIDMI)

### Speakers

1. Shilpi Srivastava, Research Fellow, Institute of Development Studies, University of Sussex (UK)
2. Megha Sheth, ANTICIPATE Research Officer
3. Vinitha Bachina, Research Officer at Institute of Development Studies
4. Shibaji Bose, PhD researcher, National Institute of Technology Durgapur
5. Chaithra S.T., PhD Student, Indian Institute of Technology Delhi
6. Krishna AchutaRao, Professor and Head of the Centre for Atmospheric Sciences, Indian Institute of Technology Delhi
7. Saqib Huq, Managing Director and Coordinator of Climate Finance Programme, ICCCAD
8. Mihir R Bhatt, Director, All India Disaster Mitigation Institute

### Speaker 1: Shilpi Srivastava

Ms. Shilpi presented the findings from an ongoing project called "Anticipate: Addressing Co-Located Hazards in North Gujarat," which mainly examines the impact of extreme weather events and climate uncertainty. Her project started in 2020 but faced challenges due to the pandemic during COVID-19 and

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fieldwork began in March 2022 in North Gujarat and other areas. The project aimed to understand how different actors experience and prepare for co-located hazards, such as droughts and floods and how preparedness can be co-produced with vulnerable communities on the front lines of climate change. The presentation emphasizes the need to critically examine the construction of extremes and the framing of hazards questioning when and for whom they become extreme and why. It highlighted the importance of taking a bottom-up view and understanding the social aspects of extreme events and preparedness.

### **Speaker 2: Megha Sheth and Vinitha Bachina**

Megha and Vinitha discussed their experience on a project. From their field survey the community experiences on changing patterns of extreme weather events was revealed, with an emphasis on increased flooding occurrences compared to droughts. The community distinct drought as a scarcity of water leading to increased agricultural and husbandry costs, while floods are characterized by prolonged waterlogging due to heavy rainfall. Traditional weather forecasting methods based on natural indicators such as flowering patterns, animal behaviour, wind direction and cloud formations are still relied upon, but the communities are also incorporating modern methods, such as IMD's data and mobile alerts to prepare for extreme events. Traditional methods hold a strong influence due to their perceived reliability. Preparedness in the community occurs at both short-term and long-term levels with seasonal preparations for monsoons and unseasonal rains as well as longer-term measures such as building houses at higher elevations and constructing animal shelters. The presentation also highlighted the occurrence of new challenges, including heatwaves, dual seasonality, and increased unseasonal rains, which require adaptation strategies and policy considerations.

### **Speaker 3: Shibaji Bose and Megha Sheth**

The use of visual methods, including photo elicitation and photo voice, revealed the hidden and unpaid labor of women in rural communities dealing with climate extremes. Women are at the forefront of coping with the uncertainties of changing weather patterns and are crucial in preparing against unexpected events. The research found that women are under significant work pressure, not only in their routine activities but also due to demands imposed by climate-related uncertainties. The study emphasized the need to recognize and address the gendered impacts of climate change, particularly the extra responsibilities placed on women. Despite the challenges and increased uncertainties, communities in the study area are shifting towards animal husbandry as a reliable means of livelihood. This transition has been facilitated by cooperatives and support from government agencies, which offer loans, cattle feed, maternity care, and fair prices for milk and dairy products. However, the younger generation is increasingly migrating to urban areas in search of less labor intensive opportunities, leaving behind the traditional agricultural and livestock practices.

### **Speaker 4: Chaithra S T and Krishna AchutaRao**

Chaithra and Krishna emphasized in their presentation that extreme weather events such as droughts and floods are naturally modulated as well as by human actions. They also mentioned that the built and human systems at play also play a role in the consequences of extreme weather events. Also, Water management and reservoirs and dams are important in mitigating the consequences of extreme weather events.

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### **Speaker 5: Saqib Huq**

Saqib Huq points out that the global climate finance goal of \$100 billion per year has not been met and that adaptation projects have received a significantly lower share of funding than mitigation projects. Local communities need to be involved in climate finance projects from the beginning. He claimed that local communities and organizations have the best understanding of their local context and needs and that their involvement in climate finance projects is essential for their success. Climate finance needs to be more holistic and less siloed. He highlighted the importance of taking a holistic approach to climate adaptation, rather than focusing on individual sectors or projects. He also argues that climate finance needs to be better coordinated with humanitarian aid and disaster response efforts.

### **Speaker 6: Saiful Islam**

Saiful Islam mentioned in his presentation that Bangladesh is facing a number of climate change challenges, including extreme rainfall, waterlogging, and sea level rise. Bangladesh is taking steps to build resilience to climate change, but it needs support from developed countries, who are the major polluters. Bangladesh is committed to reducing its own greenhouse gas emissions, but it is concerned that the world is not moving fast enough to limit global warming.

### **Three key takeaways from the end of the session**

1. Climate change is impacting communities in North Gujarat, India, with an increase in flooding occurrences and other extreme weather events like heat wave.
2. Women in rural communities are at the forefront of coping with climate extremities, but they face significant work pressure and need more support.
3. Communities are shifting towards animal husbandry as a reliable means of livelihood, but the younger generation is migrating to urban areas in search of less labour-intensive opportunities.

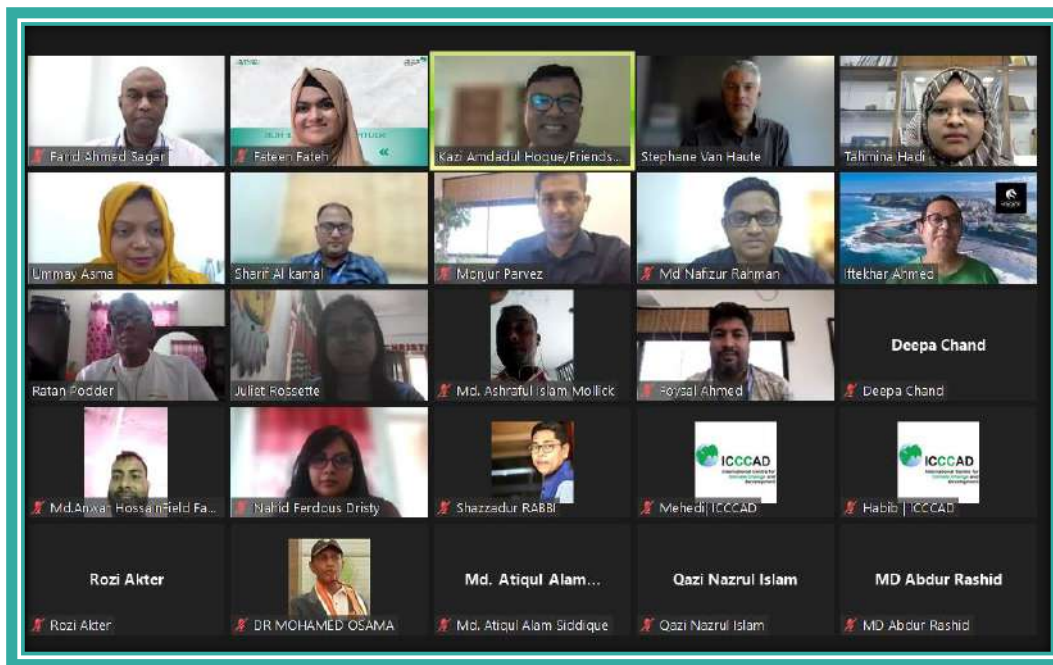
### **Session Summary:**

The session was focused the need for climate adaptation in South Asia, revolved around extreme events like heat waves, cyclones, and floods. The discussion held on projects like 'Anticipate' in North Gujarat. Community experiences, especially challenges posed by green drought, were discussed, along with the role of traditional forecasting. Farming impacts, such as excessive rainfall and women's hidden workloads, were emphasized. Chaithra delved into extreme weather trends in India, attributing them to human activities and analysing precipitation indices. Krishna discussed infrastructure vulnerabilities and the growing risk of heat waves. Saqib addressed climate finance challenges, stressing funding shortages and the necessity for more local involvement in adaptation projects and rectifying funding imbalances between mitigation and adaptation.

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## **Infrastructure, Energy and Mobility**

## From Vulnerability to Resilience: Climate-Adaptive Housing Solutions for Coastal Communities



**Rapporteur name:** Umay Asma Bhuiyan, Assistant Programme Manager, Climate Action, Friendship

**Organization:** FRIENDSHIP (Lead) and Housing & Building Research Institute (HBRI), Ministry of Housing and public works

### Speakers

1. Runa Khan , Founder and Executive Director , Friendship
2. Md.Nafizur Rahman , Principal Research Officer, Housing & Building Research Institute ( HBRI)
3. Monjur parvej , Senior Research Architect ( Additional Incharge) , Housing & Building Research Institute ( HBRI)
4. Sharif Al Kamal , Senior Programme Manager , Climate Action , Friendship

### Speaker 1: Ms. Runa Khan

The importance of homes as peace, love, hope, and safety, and the profound impact on individuals when these feelings are disrupted by climate-related disasters, particularly affecting vulnerable communities in poorly constructed houses. The multitude of challenges faced by coastal regions of Bangladesh, including tropical cyclones, rising salinity, erosion, and tidal surges, which significantly harm the lives and livelihoods of millions, particularly in developing countries like Bangladesh. Friendship's collaborative initiative with the Housing and Building Research Institute (HBRI) to construct climate-resilient houses, considering social, cultural, environmental, and climatic factors to withstand the challenges of climate change.

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## **Speaker 2: Md. Nafizur Rahman**

Md. Nafizur Rahman, Principal Research Officer at the Housing & Building Research Institute (HBRI), highlighted Bangladesh's policy focus on constructing climate-resilient, cyclone-resistant buildings. HBRI conducts research on sustainable building materials and technologies for environmentally friendly and disaster-resilient infrastructure. Existing policies, outlined in the Bangladesh National Building Code (BNBC) 2020, cover aspects like wind speed, safety, retrofitting, fire safety, flood resilience, earthquake preparedness, and energy efficiency. Adapting these policies is crucial to address evolving environmental conditions and emerging threats. Collaboration with national and international organizations, capacity building through training, performance evaluation for buildings, retrofit schemes, and efficient urban planning are essential to enhance housing and infrastructure resilience. These efforts align with Sustainable Development Goals (SDGs) 13 (climate action) and 11 (sustainable cities and towns), contributing to Bangladesh's Vision 2041 and Perspective Plan for 2021-2041.

## **Speaker 3: Manjur Parvej**

In 2014, HBRI, in collaboration with FRIENDSHIP and support from Shelter Cluster and Housing Actors, created the "Standard Guideline for Rural Housing in Disaster-Prone Areas of Bangladesh." These guidelines are nationally and internationally recognized, available on platforms like Shelter Cluster and Prevention Web, and widely referenced by universities, governmental organizations, and NGOs. The 710-kilometer coastal region in Bangladesh, housing approximately 45 million people, includes 10 million residents at extreme risk from cyclones and tidal surges. Challenges accessing government cyclone shelters due to distance, poor infrastructure, overcrowding, and gender-specific facilities deficiencies exist. Traditional community housing structures are often vulnerable. The focus is shifting towards Cyclone Resilient Houses. Over the next two years, HBRI, in partnership with public and private universities, plans to research pilot houses and build local community capacity for construction. Advocacy campaigns will engage governmental and non-governmental organizations to promote Cyclone Resilient Houses as a sustainable solution for vulnerable coastal communities in Bangladesh

## **Speaker 4: Sharif Al Kamal**

These houses are designed to withstand extreme conditions, with the ability to endure winds of up to 260 km/hr. They are also resistant to tidal surges and salinity. Furthermore, a substantial rainwater reservoir with a 3600-liter capacity has been incorporated to ensure a sustainable water supply. Environmentally friendly, low-carbon building materials have been utilized for construction, reflecting a commitment to sustainability. Inclusive design features include disability-friendly ramps and dedicated rooms to safeguard against gender-based violence during disasters. These houses offer a cost-effective construction solution, making them accessible to a broader population. Even at low construction costs, these houses can shelter a minimum of 30 people and 10cattle during disasters, enhancing community resilience. These houses are characterized by low ongoing maintenance costs, ensuring long-term sustainability. Through collaboration with the HBRI, construction materials were developed that maximize the use of locally sourced materials and local labor, contributing to environmentally friendly, durable housing solutions in coastal areas. The project supported the training of local masons in coastal areas, resulting in the development of 20 environmentally conscious entrepreneurs. This not only fosters sustainable construction practices but also bolsters local economic opportunities.



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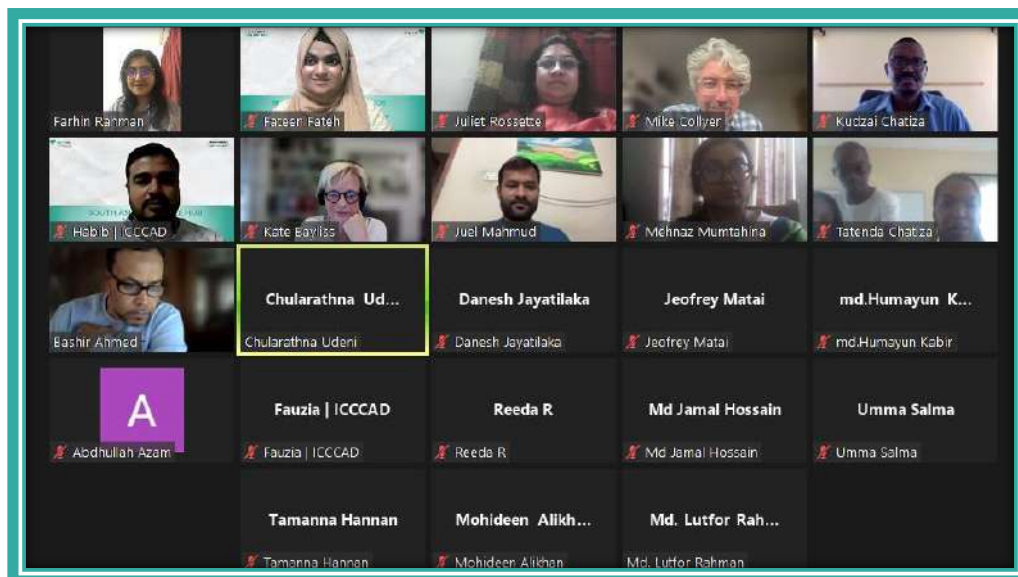
### **Three key takeaways from the end of the session**

1. Innovative housing solutions must encompass climate resilience, environmental sustainability, and social inclusivity to protect vulnerable coastal communities.
2. Adapting policies to changing environmental conditions and enhancing capacity through training and awareness campaigns are crucial for resilient housing and infrastructure.
3. Emphasizing the importance of local empowerment and collaboration in creating resilient housing solutions. Through initiatives like developing construction materials using locally sourced materials and training local masons, the project has not only promoted sustainable construction practices but has also contributed to local economic opportunities. The collaborative effort involving the government, private sector, and international organizations showcases the potential for replication and scaling of these innovative housing models.

### **Session Summary**

The session kicked off on an inspiring note with Ms. Runa Khan, our esteemed Founder and Executive Director, delivering a motivational opening address. Guiding the discussions with great finesse were our capable co-moderators, Ms. Tahmina Hadi and Ms. Ummay Asma Bhuiyan. Our panel of engineering experts, including Mr. Md. Nafizur Rahman, Mr. Manjur Parvez, Ms. Nahid Ferdous Dristy from HBRI, Mr. Md Sharif Al Kamal from FRIENDSHIP, and Mr. Farid Ahmed Sagar, brought forth innovative ideas aimed at bolstering housing structures against the challenges posed by climate change. The session featured two engaging breakout sessions, each focusing on important themes: "Innovative Technologies" and "Resilient Structures." Bringing the session to a meaningful conclusion, Mr. Kazi Amdadul Hoque, our esteemed senior Director, shared his insightful closing remarks. The session saw active participation from over 40 attendees, who contributed a wealth of diverse perspectives and valuable insights.

## Inclusive Urban Infrastructure



**Rapporteur name:** Fateen Fateh

**Organization:** ICCCAD

### Speakers

1. Michael Collyer, Professor of Geography, University of Sussex
2. Kudzai Chatiza, Development Researcher and Consultant, Development Governance Institute
3. H.M.U.Chularathna, Executive Director, SEVANATHA Urban Resource Center
4. Ayan Yusuf, Research & Projects Manager, Institute for Peace and Conflict Studies, University of Hargeisa, the Republic of Somaliland
5. Md. Lutfor Rahman, Research Officer, ICCCAD
6. Kate Bayliss, Research Associate, SOAS University of London
7. Farhin Rahman Reeda, Research Officer (Moderator)

### Speaker 1: Mike Collyer

Mike discussed about his project in the presentation which had been ongoing for more than 4 years, with a focus on addressing patterns of inequality in access to basic infrastructure in urban neighbourhoods.

The project had three main objectives:

- a. To analyse patterns of inequality in access to various forms of infrastructure.
- b. To understand how these patterns of inequality arose, utilizing a systems of provision framework.

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- c. To develop interventions to address these inequalities and make urban infrastructure more inclusive.

The project covered 24 low-income urban neighbourhoods across four countries, involving large-scale household surveys, qualitative interviews, visual methods like comics and photo voice, and the development of systems of provision analysis to address the objectives

### **Speaker 2: Kudzai Chatiza**

**Importance of Community Mobilization:** Kudzai emphasized the importance of social mobilization and community engagement in improving water and sanitation services. Mobilized communities play a pivotal role in co-producing and sustaining services, but these efforts often lack adequate support and connection to the state and other stakeholders. **Challenges in Land Management:** Effective land management is essential for equitable and sustainable service delivery. However, issues around land access, security, and governance can obstruct the extension of water and sanitation infrastructure to underserved areas. Addressing these land-related challenges is crucial for resilience and inclusivity. **Governance and Trust Building:** Kudzai stressed the need for remodelling governance frameworks and building trust between state agencies, communities, and other stakeholders. Trust is critical in ensuring the smooth co-production of services, and governance models must be adapted to address local contexts and support community efforts.

### **Speaker 3: Chularathna Udeni**

Chularathna's discussed about the water intervention project in Sri Lanka. **Community-Centered Approach:** The project prioritized understanding the community's problems and experiences, which was essential for designing a water supply system that truly met their needs. The active involvement and transparency with the community allowed for a successful intervention. **Multi-Party Collaboration:** The project established a multi-party agreement involving the plantation management, the community, and other stakeholders. This collaborative approach ensured the sustainability of the improved water supply system and helped build strong relationships between the parties involved. **Social and Economic Impact:** The intervention had a significant positive impact on the community, particularly for women who saved time and money previously spent on securing water. The improved water supply system not only enhanced their daily lives but also contributed to social cohesion and economic well-being.

### **Speaker 4: Ayan Yusuf**

Ayan discussed about the Water Challenges of Somaliland's. Somaliland, a semi-arid nation in the Horn of Africa, faces significant challenges related to water scarcity and climate change. Reduced rainfall and droughts have negatively impacted the primary sector, which is livestock rearing. There are issues with water infrastructure, with many areas lacking access to clean and safe water sources. This situation particularly affects women and children who are responsible for fetching water.

Water has become a commercialized commodity in Somalia, and this is a global trend. In areas with few water sources, water can be quite expensive, especially during drought seasons when people have to travel longer distances to access it. Water trucks have been introduced as a means to transport water over great distances, but this service comes at a cost. Access to clean water in Somaliland is a contentious issue. While the capital city, Hargeisa, struggles to provide adequate access, other areas, such as Burao, have implemented a public-private partnership system that seems to be working well with a high

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satisfaction rate. Low-income households often rely on water trucks, and they face issues related to water quality and cleanliness.

#### **Speaker 4: Md. Lutfor Rahman**

Md. Lutfor Rahman discussed the challenges in providing water infrastructure in the municipality area, with a focus on informal settlements. These challenges include factors like climate change, population growth, political issues, and salinity in groundwater, which affect access to clean water. The water system in Bangladesh is centralized, with the central government overseeing infrastructure and services. However, many people in informal settlements, such as the Signal Tower colony, face difficulties in accessing these services, particularly due to their location. To address the water access challenges, community interventions like rainwater harvesting tanks have been implemented. These interventions aim to improve access to clean water, which, in turn, can positively impact health, local economic growth, and education for the residents of informal settlements.

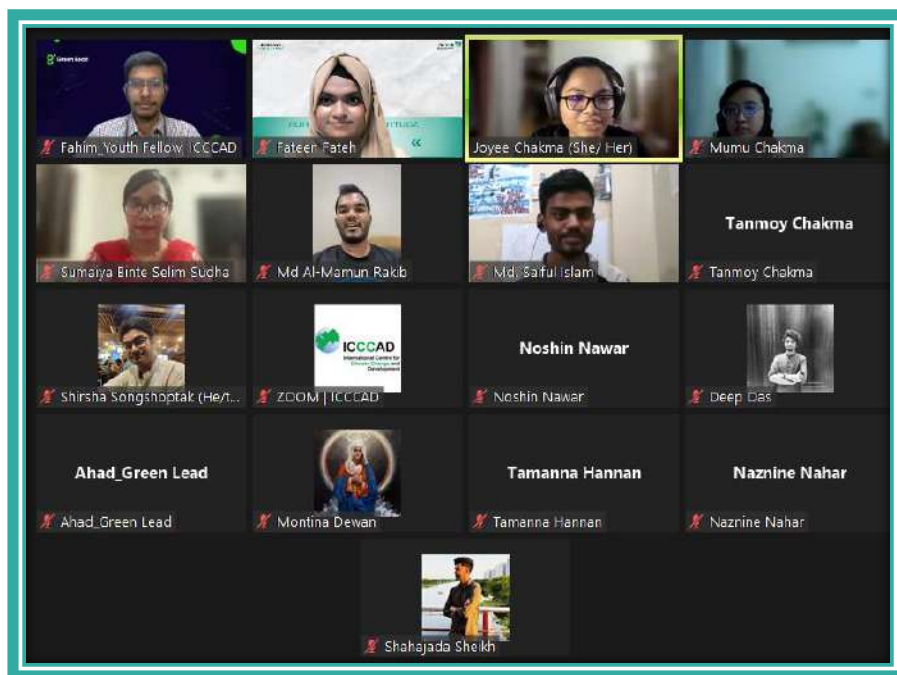
#### **Three key takeaways from the end of the session**

1. The "Inclusive Urban Infrastructure" research project, spanning over four years and involving collaboration across four countries, focused on addressing patterns of inequality in access to basic infrastructure in urban neighbourhoods, particularly in the realm of water infrastructure.
2. The project had three key objectives: analysing patterns of inequality in infrastructure access, understanding the underlying causes using a systems of provision framework, and developing interventions to create more inclusive urban infrastructure.
3. The project covered 24 low-income urban neighbourhoods, utilized various research methods including household surveys and visual techniques, and emphasized the importance of factors such as community mobilization, land management, governance, trust-building, and community-centered approaches to address water and sanitation challenges in these areas.

#### **Session Summary**

The discussion centred around the "Inclusive Urban Infrastructure" research project, led by the University of Suffolk, involving collaboration across Zimbabwe, Somaliland, Sri Lanka, and Bangladesh. The project aimed to identify and understand patterns of inequality in infrastructure access, particularly in the context of six neighbourhoods in each country, with a strong emphasis on water infrastructure. The discussion included presentations on challenges and opportunities in improving water and sanitation services, ranging from resource management to political and institutional issues. The use of visual methods like comic books and animation films to share research findings was also highlighted, along with the political economy framework used to analyse access to water. This project focused on refining methodologies and discovering common themes across case studies, ultimately striving for more inclusive urban infrastructure.

## Fuelling Change: Youth Voices on Sustainable Energy, Infrastructure and Mobility in South Asia



**Rapporteur name:** Fateen Fateh

**Organization:** ICCCAD

### Speakers

1. Joyee Chakma , Youth Representative, ICCCAD
2. Shirsha Shongshoptok, Youth Fellow,ICCCAD
3. Deep Das, Youth Fellow,ICCCAD
4. Noshin Nawar, Youth Fellow,ICCCAD
5. Mumu Chakma, Youth Fellow,ICCCAD
6. Md Fahim Hossain, Youth Fellow,ICCCAD
7. Sumaiya Binte Selim, Programme Coordinator, ICCCAD

Joyee Chakma moderated the session starting introducing a panel discussion on a project aimed at improving the living conditions in Dhaka's Shampur colony. The panel included Sishu Shannon, Deep Dash, Nawar Noshin, who presented a project titled "Combating Climate Change through Sustainable Infrastructure,"

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### **Speaker 1: Deep Das**

Deep Dash presented the project titled "Combating Climate Change through Sustainable Infrastructure," which aimed to improve the living conditions in Dhaka match colony, Shampur. The project aims to address climate-induced migration and slum growth in Shampur. The team focused on Sustainable Development Goals (SDGs) 3, 6, and 11 to safeguard slum dwellers' rights, with 1.5 billion people projected to inhabit slums by 2025. Their methodology of the project was analyzing slum upgrade projects globally, studying local and international policies, and creating a detailed study area profile for Dhaka Match Colony. Identified policy gaps include water supply, waste management, health services, housing guidelines and land tenure issues. The study area they are working for is surrounded by factories, exhibits dominant Kacha and Semi-Paka structures, lacking proper drainage and narrow roads. The population projection for 2035 is 5,803. The project requires comprehensive solutions for sustainable infrastructure, emphasizing inclusivity and safety.

### **Speaker 2: Noshin Nawar**

Noshin also outlined strategies for engaging the community, such as setting up a training centre, marketplace, and community spaces. Their project outlines comprehensive design strategies for fighting climate-induced migration and upgrading the Dhaka Match Colony. Like, disaster-resilient measures include emergency exits, hazard prevention equipment and also prioritizing road accessibility. Basic services include water filtration points, toilets for every unit, and community hygiene education. Eco-friendly measures include waste management, open spaces, and solar panels. Creating an economically resilient community involves establishing training centres, marketplaces, and engaging the community in production and sales. The emphasis on community engagement includes dedicated spaces for social interaction, primary schools, health facilities, and religious spaces. The proposed strategies aim to create a sustainable and inclusive environment for the residents of Dhaka Match Colony.

### **Speaker 3: Shirsha Shongshopto**

Finally, Shirsha concluded by emphasizing the improvements in the upgrading plan compared to the current conditions in the area, particularly the increase in green spaces and employment opportunities. The proposed design significantly increases green spaces, employment opportunities and community interactions, aiming to enhance the residents' overall well-being. Visualizations could illustrate the incorporation of natural boundaries and recreational spaces. Implementation occurs in two phases, addressing large and small family units first and then focusing on bachelors. Temporary housing facilities are provided during construction, with cost recovery managed through government-owned land leasing. The plan emphasizes inclusivity, cost recovery and ongoing community involvement to uplift the vulnerable population. The goal is to align with SDG objectives and improve the living conditions for neglected communities.

### **Speaker 4: Mumu Chakma**

Mumu discussed the impact of mass tourism on the environment and local communities in Bangladesh. Specifically on indigenous communities in Sajik, Bangladesh, emphasizing the need for sustainable tourism. She highlighted the need for sustainable tourism that balances economic growth, social and cultural aspects, and environmental conservation. She pointed out the negative consequences of uncontrolled tourism, such as increased water demand leading to streams drying out, deforestation, and



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increased carbon footprint due to the use of non-sustainable materials in infrastructure. Mumu discussed the shift from developing to middle-income country and the rise of sustainable tourism.

### **Speaker 5: Md Fahim Hossain**

Fahim a student from the mechanical engineering department, presented his work on the rise of electric vehicles in Bangladesh and the challenges associated with thermal management of vehicle batteries. He highlighted country's ambitious plan to increase the ratio of EVs. He acknowledges the existing presence of electric vehicles in the form of three-wheelers since 2007. Also, the government's ambitious plan to increase the ratio of electric vehicles to reduce emissions. He also introduced his project focused on designing an effective battery thermal management system to improve the performance of electric vehicles' batteries and accelerate the adoption of electric vehicles. He added the need for consumer education, technological development, and the balance between sustainable energy production and EV manufacturing.

### **Speaker 6: Sumaiya Binte Selim**

Sumaiya applauded the session's diverse and impactful presentations, she emphasized the multidisciplinary imperative in tackling climate change. Recognizing its reach beyond academic silos, the session embraced inclusivity and sensitivity to sustainability facets. From informal settlements and tourism to alternative energy, the topics resonated with South Asian youth, whose efforts deserve global recognition and collaboration. According to her highlighting the need for both technical and human-centric approaches, the session was deemed pivotal in achieving the SDGs.

### **Three key takeaways from the end of the session**

1. Slum upgrading is extremely important not only for improving the living conditions and human rights of slum dwellers but also for providing socioeconomic opportunities through infrastructure improvements.
2. A comprehensive policy framework is essential for sustainable slum development and cover aspects such as drinking water and sanitation, health services, housing, land tenure, waste management, and more.
3. Youth engagement in addressing critical issues related to sustainable energy, infrastructure, and mobility is important as the youth demonstrated passion, creative thinking, and commitment to collaboration and partnership. Their efforts focus on achieving sustainable inclusivity in initiatives and emphasize a multi-sectoral approach to combat climate change.

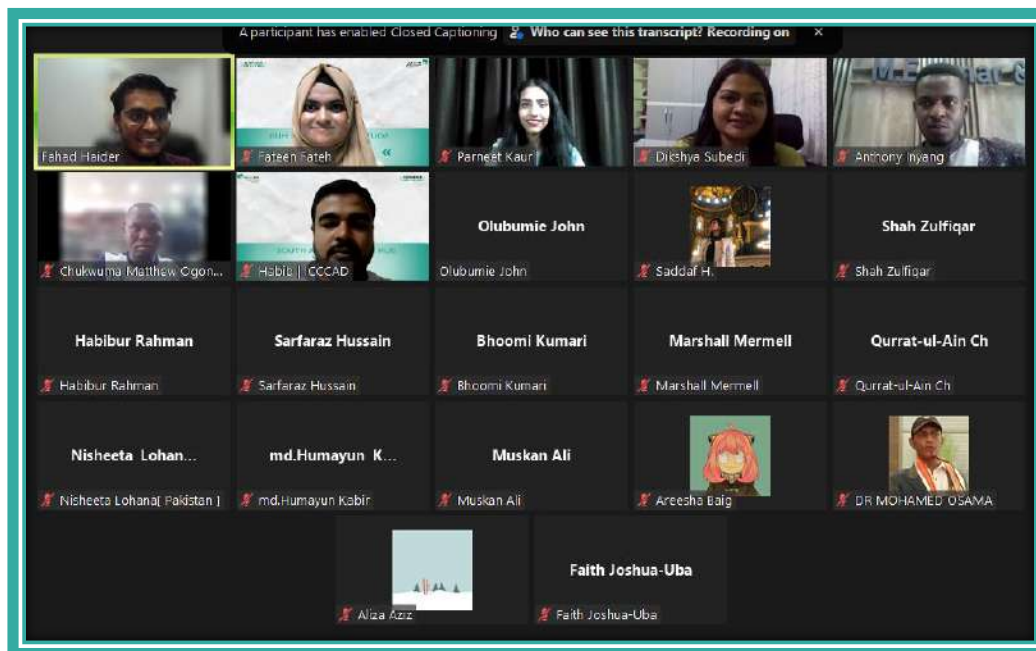
### **Session Summary**

The session focused on addressing the challenges faced by South Asian slum dwellers through upgrading to improve their living conditions and socioeconomic opportunities. The project aimed to combat climate change through sustainable infrastructure, emphasizing the urgency of addressing climate change's

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impact on urbanization and slum growth. The presenters discussed a detailed methodology for analyzing slum upgrading policies, highlighting gaps in existing policies and the need for more specific measures. They also presented design strategies for eco-friendly housing and basic services in Dhaka Match Colony, a study area chosen for its structural issues. The session also addressed the environmental impact of mass tourism and the necessity of sustainable practices. They discussed the rise of electric vehicles in Bangladesh and associated challenges in battery thermal management, promoting eco-friendly transportation. The session facilitators emphasized the importance of youth engagement, creative thinking, collaboration, and achieving sustainable inclusivity in addressing critical issues related to climate change. They encouraged a multi-sectoral approach to tackle climate change and a focus on both technical and human aspects. In summary, this session discussed a range of important topics related to slum upgrading and climate change in South Asia. The presenters highlighted the urgency of the problem, the need for more specific and comprehensive policies, and the importance of youth engagement and a multi-sectoral approach.

## What on Earth can we do about Climate Change?! - A Discussion with Youth on Climate and Energy (Region: South Asia)



**Rapporteur name:** Nafis Imtiaz Hossain

**Organization:** ICCCAD

### Speakers:

1. Taimur Ashfaq - Energy Professional/Youth Activist (Pakistan)
2. Dikshya Subedi - Youth Climate Leader (Nepal)
3. Pritam Biswas - Electrical Engineer/Senior Manager (India)
4. Parneet Kaur - Founder, Poetry for Planet; Associate, G20-Y20 (India)
5. Fahad Haider - Renewable Energy Engineer/Youth Climate Ambassador/Founder - Eminate (Bangladesh)

### Speaker 1. Taimur Ashfaq

Taimur discussed the impacts of the climate crisis in Pakistan, highlighting the increasing use of natural gas and the need to introduce renewable energy projects. He noted that the climate crisis has caused severe damage, affecting over 33 million people and causing major disruptions to the agricultural infrastructure. Taimur also mentioned the urgent need for funding and willpower to transition to renewable energy sources, while also acknowledging the challenges in achieving these goals.

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### **Speaker 2: Fahad Haider**

Fahad provided an overview of his professional background, with a focus on renewable energy and his ties to Bangladesh. Fahad introduced a case study about Antora, a girl in a remote Bangladeshi school that lacks electricity due to climate-related disasters. The discussion raised concerns about infrastructure and education in such situations. Fahad highlighted a project he initiated involving crowd funding and installing solar and computer equipment in schools in Netrokona, including the Ontario School. He noted the positive impacts on students, such as improved study conditions and preparation for future challenges, as well as the project's contribution to climate change mitigation. He highlighted the dilemma of balancing economic growth and climate change adaptation and mitigation, such as investing in gas turbines or more expensive solar energy. He also pointed out that renewable energy is being used not only for mitigation but also for adaptation, such as solar-powered water purifiers and solar-powered storage for food in drought-prone areas. He emphasized the need for resilient infrastructure and the importance of learning from the experiences and solutions of local communities. Lastly, Fahad discussed the need for developed countries to provide funding for climate change adaptation in affected countries.

### **Speaker 3: Parneet Kaur**

Parneet Kaur discusses the evolution of her climate action journey, inspired by a climate ambassador program. She emphasizes the power of storytelling in fostering climate optimism and introduces Poetry for Planet, an international youth-led creative initiative. The project aims to celebrate unsung climate champions, particularly focusing on indigenous voices, mental health within the climate community, and inspiring others to join the climate action movement. Parneet underscores the importance of recognizing climate leaders' struggles and providing a psychological support system. The initiative serves as a platform to bridge storytelling and climate action, acknowledging the diverse talents and perspectives needed in the global fight against climate change. She concludes by sharing her poem, "Leaf's Rebellion," which poignantly addresses the fate of leaves in the face of environmental challenges.

### **Speaker 4: Dikshya Subedi**

Dikshya Subedi from Nepal, shared insights and her experience on the impact of climate change on agriculture and the environment. Emphasizing the urgency of addressing climate-related challenges she discussed the increasing frequency of extreme weather events in Nepal causing loss of life, economic setbacks, and social upheaval. Dikshya advocated for sustainable agriculture, renewable energy, and youth involvement in decision-making processes. She highlighted her journey as a climate activist, founding "Youth Actions for System" and participating in campaigns for a cleaner, greener environment. Stressing the importance of inclusive participation and empowering the youth, Dikshya concluded by encouraging real stories and solutions at the Climate Conference.

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### Three key takeaways from the end of the session

1. Due to the severe impacts of the climate crisis on millions of people immediate action to implement renewable energy projects is crucial. Transition from traditional energy sources, like natural gas, to renewable energy is an urgent need. This transition requires both financial support and strong political will.
2. The effectiveness of grassroots projects in providing sustainable energy solutions and enhancing resilience in the face of climate-related challenges illustrates the importance of local solutions and adaptation strategies in addressing climate change
3. Inclusive participation and empowerment of the younger generation in decision-making processes can drive to a positive change

### Session Summary

Diverse perspectives on climate change impacts and mitigation efforts from speakers representing Pakistan, Bangladesh, and Nepal was brought together in this session. Taimur discussed the severe situation of the climate crisis in Pakistan, emphasizing the damage to agriculture and the imperative to shift to renewable energy. The urgent need for funding and reinforcements to achieve this transition was highlighted.

Fahad Haider presented a case study from Bangladesh, focusing on the challenges faced by a remote school lacking electricity due to climate-related disasters. He showcased a successful crowd funding initiative implementing solar solutions in schools and contributing to climate change mitigation. He addressed the dilemma of balancing economic growth with climate change adaptation and stressed the importance of resilient infrastructure.

Parneet Kaur shared her climate action journey, emphasizing the power of storytelling in fostering climate optimism. She introduced **Poetry for Planet**, a youth-led initiative celebrating unsung climate champions. She highlighted the importance of recognizing climate leaders' struggles and providing a psychological support system.

Dikshya Subedi discussed the impact of climate change on agriculture in Nepal, calling for sustainable practices and youth involvement in decision-making. She shared her journey as a climate activist, advocating for inclusive participation and empowering the younger generation.

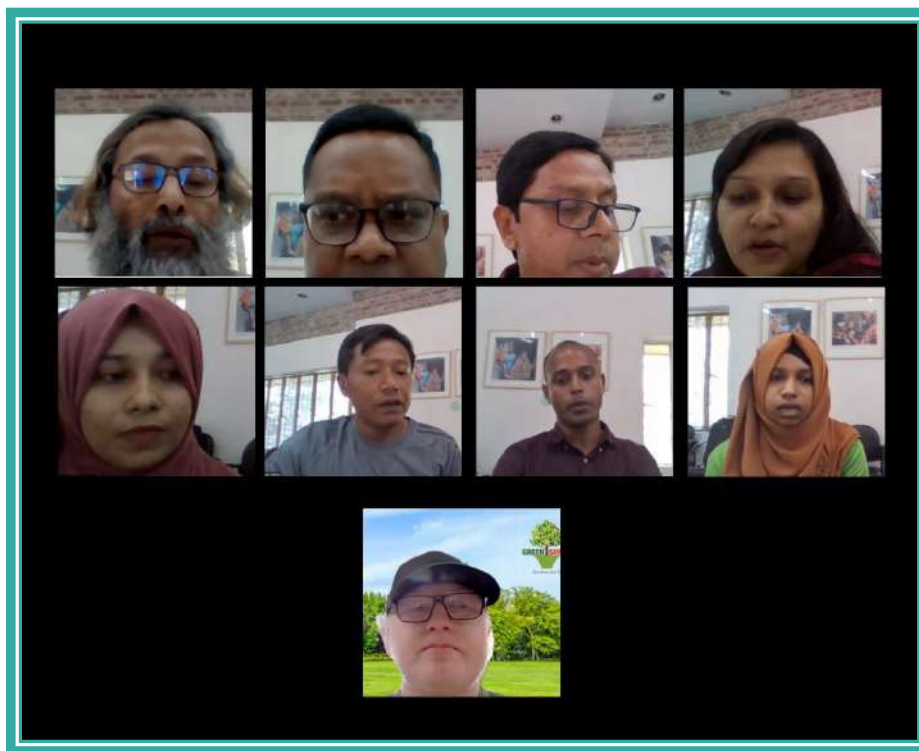
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## **Water and Natural Ecosystem**



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## Transformation of a Multi-Sectoral Livelihood Program to a Shock Responsive, Climate Resilience Program



**Rapporteur name:** Fateen Fateh

**Organization:** ICCCAD

### **Speakers:**

1. Mr. Jyotiraj Patra, Programme Director of Concern
2. Zakir Ahmed Khan, Deputy Director Programs (Imp), Concern Worldwide
3. Mr. Ahsan Rony, CEO Green Savers
4. Farzana Azam - SEEP Program Operations (Transformation of the Program)
5. Syeda Akhter Shila - Change Maker, ILUEP-NM
6. Prodip Kumar, Plant Doctor -Independent
7. Shahidul Shekh, Nursery Entrepreneur
8. Tohiba Khanam, Plant Doctor -Independent

### **Speaker 1: Mr. Jyotiraj Patra**

Mr. Jyotiraj the Programme Director of Concern, Bangladesh. He presented their decade-old urban programming tackling extreme urban poverty. The session showcased the Green Savers initiative, highlighting volunteer contributions and the program's transformation from a livelihood initiative to a

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climate-resilient and hazard-responsive one. Emphasizing the importance of partnerships like Green Savers.

**Speaker 2: Zakir Ahmed Khan**

Zakir Khan from Concern Worldwide discussed the evolution of their urban programming in Bangladesh. Since its inception in 1972, the NGO's "Amra-O-Manush" program (2006) has provided psycho-social counselling and essential services to the urban poor. The programs have since grown to address climate resilience, with a current focus on green jobs and enterprises. In partnership with Green Savers, they promote rooftop gardening and environmentally friendly livelihoods. The program also includes financial skills training, crisis support, and advocacy. Concern's aim is to empower marginalized urban communities, especially women, the elderly, and people with disabilities, while influencing policy for climate-responsive urban development. The speech outlined program outcomes, components, and partnerships, emphasizing a shift toward sustainability and climate-conscious urban initiatives. The audience was encouraged to ask questions for further discussion.

**Speaker 3: Mr. Ahsan Rony**

Ahsan Rony of Green Savers, collaborating with Concern Worldwide, discussed the potential of urban horticulture for climate change. Green Savers, established in 2010, has transformed Dhaka's rooftops with over 5,000 gardens. He underscored their role in mitigating climate change by absorbing heat, improving air quality, and filtering pollutants. He emphasized how their "tree doctor" training empowers the urban poor for sustainable rooftop farming. Applauding Concern's efforts in training communities. He envisioned integrating urban farming into various professions for improved livelihoods and a healthier urban environment.

**Speaker 4: Farzana Azam**

Ms. Farhana shared the evolution of her program since 2008, focusing on the Amara-o-Manush project. Initially, it offered essential services like shelter, healthcare, and education to pavement dwellers. However, facing climate challenges like floods and waterlogging, the program transformed into the Green Graduation Program. This new approach prioritizes activities like nursery management and income generation, building resilience through tree planting, and empowering participants as professional "plant doctors". This shift aims to equip the urban poor with skills to not only survive disasters but also contribute to environmental sustainability by promoting green practices and fostering green livelihood opportunities in urban settings.

**Speaker 5: Syeda Akhter Shila**

Shila represents a community with limited awareness of opportunities. She expressed gratitude for Narimuchi's training and highlighted the existence of a youth forum that educates them on their rights. She emphasized the challenges women face in decision-making and independence within the community. The training empowered her to advocate for women's rights, including the right to speak and participate in decision-making. During COVID-19, she shared safety measures with women in the forum and assisted the council in identifying those in need of relief, illustrating a commitment to positive change and support within her community.

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### **Speaker 6 Prodip Kumar**

Prodip's life took a turn when the pandemic struck, affecting his agricultural livelihood. A beacon of hope arrived with Green Savers' project. He joined, eager to learn and tackle the insect woes plaguing crops. Dhaka's training grounds nurtured his skills, transforming him from farmer to plant doctor. Now, he expertly diagnoses issues like nutrient deficiencies and insect-induced fruit loss, his green thumb bringing life back to urban gardens. Prodip's journey embodies the power of training in empowering individuals to become guardians of our urban green spaces.

### **Speaker 7: Shahidul Shekh**

Shahidul, a nursery owner, credits his success to the knowledge he gained through Green Savers' rooftop gardening program. Hands-on training equipped him with the skills to diagnose and treat various plant problems. Recognizing the challenges faced by busy professionals in maintaining their rooftop gardens. He saw a business opportunity. He started offering gardening services, leveraging his expertise to cater to this specific clientele. His success snowballed, leading to corporate contracts and ultimately, the establishment of his own nursery. His story exemplifies the power of knowledge and initiative in turning passion into a thriving business.

### **Speaker 8: Tohiba Khanam**

Tohiba is a female plant doctor which is really rare. As a plant doctor, she's not only thrived in her career but also become a passionate advocate for other women to join the ranks. While she personally hasn't faced discrimination, she acknowledges many women who shy away from this fulfilling profession due to societal pressures. That's why she's inspire and encourage them.

### **Three key takeaways from the end of the session**

1. Programs like Green Savers' rooftop gardens and Concern Worldwide's "Green Graduation" program equip marginalized communities with skills and resources to build resilience against climate hazards.
2. Training programs in rooftop gardening, plant doctoring, and nursery management create income opportunities while promoting sustainable practices in urban areas.
3. The session celebrated the achievements of women like Tohiba Khanam, a successful plant doctor, and Syeda Akhter Shila, a community leader advocating for women's rights. Their stories showcase the importance of breaking down gender stereotypes and empowering women to participate in and contribute to urban development.

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## Session Summary

The session highlighted a comprehensive overview of Concern Worldwide's urban programming evolution, emphasizing the Green Savers initiative's transformation into a climate-resilient program. Starting as a livelihood effort for pavement dwellers, it has evolved to encompass psycho-social counselling, essential services, and a focus on green jobs and enterprises. The partnership between Green Savers and Concern Worldwide has been instrumental in addressing urban poverty and climate challenges. Rooftop gardening, financial skills training, and advocacy are central components, demonstrating the collective impact of collaborative endeavours. Empowering marginalized urban communities, particularly women, the elderly, and people with disabilities, is a key focus. Initiatives like the "plant doctor" training program and the Green Graduation Program equip the urban poor with skills to navigate disasters and contribute to environmental sustainability. The session highlighted the importance of partnerships, the shift toward sustainability, and the transformative power of training in fostering climate-resilient and empowered urban communities.

## Climate Resilient, Sustainable, Safely Managed Sanitation in Mega Cities



**Rapporteur name:** Nafis Intiaj Hossain

**Organization:** UNICEF

### **Speakers:**

1. Adnan Hakim, WASH Officer, UNICEF Bangladesh Country Office
2. Alauddin Ahmed, Project Manager, ITN – BUET
3. Tariq Bin Yusuf, Waste management and sanitation expert
4. Nargis Akter, Wash officer, water portfolio, UNICEF

### **Speaker 1: Adnan Hakim (Climate Resilient, Sustainable and Safely Managed Sanitation in Mega Cities)**

Systems of sanitation are useful as long as they are not shared. Waste water and excrement that are not appropriately and securely treated are examples of contaminated sanitation. As a result, it led to an open defecation system. Shared sanitary conditions exacerbate this system. Because of this, the Millennium Development Goals (MDGs) state that everyone will have improved sanitary facilities until they are shared by more than one household. Improper management of sanitation and faecal discharge may have serious consequences, including as contaminating freshwater sources such as lakes, canals, and peripheral river systems. Additionally, it can result in unpleasant living conditions, health risks, and more frequent urban floods. The government's efforts to address Dhaka's deplorable sanitation conditions are not improving. The government's and industries apathetic approach toward cleanliness emphasizes the importance of public education. However, the government is responding by amending rules, developing institutional frameworks, supporting centralized services, and establishing treatment facilities.

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## **Speaker 2: Alauddin Ahmed**

Climate change has a considerable influence on sanitation in two of Bangladesh's most important cities, Chittagong City Corporation and Rajshahi, due to two key phenomena, sea level rise and the effect of temperature rise, respectively. Sea level rise is producing significant changes in high tide, leading a part of the city to be submerged in water each year. On the other side, Rajshahi city always faces severe drought due to less or no rainfall and heat wave events. Both cities lack the capability to reach out to financial sources, which inhibits the city's resilience system's ability to function. Furthermore, there is a lack of monitoring of climate resilient technology used by city inhabitants, and if monitoring is done adequately, difficulties with operational costs and costs associated with recovery from hazards or shocks also develop. For To achieve climate resilience, we must consider the long-term usage of any system or necessity, such as building a sustainable two-way toilet platform built at an elevated height. Furthermore, it is necessary to establish the pre and post catastrophe circumstances of these systems, such as how marginalized groups, children, and women were able to live more comfortably after utilizing an elevated latrine after severe floods when sanitation services were interrupted, destroyed, and flooded.

## **Speaker 3: Tariq Yusuf**

Dhaka North City Corporation (DNCC) with the support of UNICEF has prepared a roadmap for safe managed sanitation. However, this Project is still in the initial stage as there is a lack of institutional set up. Research carried out by the DNCC indicates that citizen engagement is necessary because people's understanding of Dhaka's pollution levels is quite low. Public hearings are therefore required, and citizens must be aware of the extent of the pollution they are causing in the city. The DNCC and DSCC took the effort to establish an inventory data, and they discovered that wastewater contributes between three and six percent of all greenhouse gas emissions. They are also creating the climate action strategy concurrently with this. Nonetheless, in order to look into the carefully managed sanitation, there is a requirement for institutional setup, guidance, and capacity building.

## **Speaker 4: Nargis Akter**

The management of waste water is closely related to the provision of an adequate and safe water supply. Globally, the quantity of untreated sewage is rising, and this, together with industrial discharge and agricultural runoff, is deteriorating water quality and poisoning water supplies. Over 1.8 billion people consume face-contaminated drinking water, placing them at danger for cholera, diarrhoea, dysentery, typhoid, and polio. This is because 80% of wastewater runs back into the ecosystem without being cleaned or reused. Only around 20% of the wastewater in the DNCC is processed by the current treatment facilities; the rest is released into the environment. Climate change has made this problem worse by causing frequent floods, irregular rainfall, and storm surges for instance these climate change impacts will effect on the sanitation system by flooding the pit latrines. Sanitation issues must be resolved in a way that doesn't harm the environment or water sources. There will be no contamination of groundwater and a pure surface water body. The chosen technologies will provide reliable and long-lasting services in the event of extreme weather, including floods, provided they are installed, managed, and operated appropriately as climate resilient technologies.



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### Three key takeaways from the end of the session:

1. Climate change is having a significant impact on sanitation systems around the world. Extreme weather events such as floods and droughts are becoming more frequent and intense, damaging sanitation infrastructure and contaminating water supplies. Sea level rise is inundating coastal sanitation systems and increasing the risk of saltwater intrusion into freshwater aquifers. Rising temperatures are increasing water demand and scarcity, making it more difficult to provide adequate water for sanitation and hygiene.
2. Bangladesh needs policies and private sector engagement to urgently ensure safe wastewater containment and treatment. Untreated wastewater pollutes the environment and spreads diseases, threatening public health. Policies and private investment can help build and operate wastewater treatment infrastructure.
3. Citizen engagement and capacity building empowers communities to take ownership of their own sanitation and hygiene needs and to work together to find solutions. When communities are engaged in sanitation and hygiene planning and implementation, they are more likely to come up with solutions that are tailored to their specific needs and that are sustainable in the long term. Citizen engagement and capacity building also help to ensure that sanitation and hygiene programs are accountable to the people who are using them. When communities have a voice in decision-making, they are more likely to hold government agencies and other stakeholders accountable for delivering on their commitments.

### Session Summary

During her discussion on the problems with hazardous sanitation in megacities like Dhaka, Fiona, the acting Chief of Water Sanitation and Hygiene for Unicef Bangladesh, emphasized the growing threats that climate change poses to the sustainability and quality of water and sanitation services. She claims that Dhaka's wastewater treatment rate is less than 1%, endangering public health as well as the city's water and land resources. The session started with Adnan Hakim who is a WASH officer in UNICEF Bangladesh who presented a city wide inclusive sanitation Project implemented in Dhaka, Rajshahi and Chittagong. At first he described about the sanitation system in the country mentioning that the sanitation services refer to the management of the excreta from the facilities used by the individual through emptying and transport for treatment. The sanitation problem is particularly acute in urban areas, where there is no systematic sewer disposal and treatment system. As a result, much of the sewage is discharged untreated into waterways and canals, polluting the environment and posing a serious health risk. The government of Bangladesh is working to improve sanitation coverage, but more needs to be done to address the root causes of the problem, such as poverty, lack of awareness, and inadequate infrastructure. In tackling the sanitation problems Adnan mentioned some of the key responses,

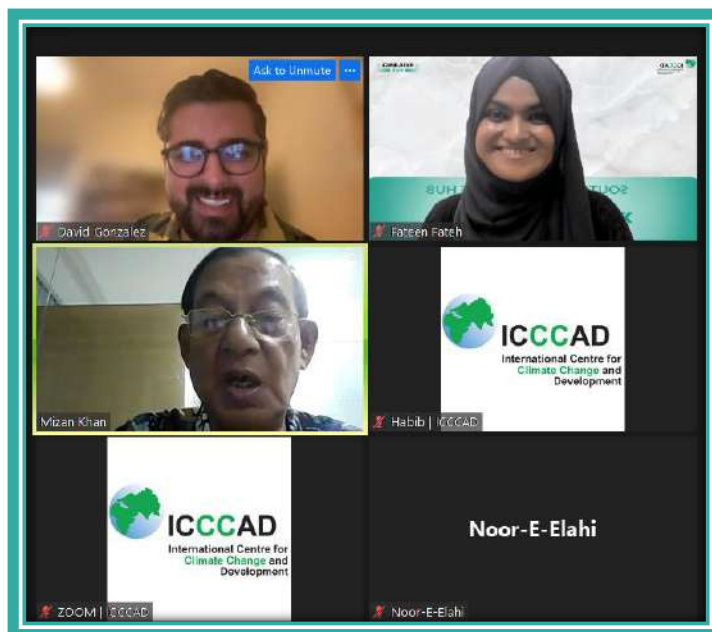
- Response 1: Policy, Legislation and Law such as specific guidelines were made by the government in the Sector Development Plan (SDP- 2026 to 2040), revised the WASH policy of 1998 etc.
- Response 2: Government investments on centralized sewerage systems such as dividing the total DMDP area into 12 different sanitation zones
- Response 3: Public awareness and engagement

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- Response 4: A mega city roadmap to reach safely managed sanitation services in city dwellers.
  - Response 5: DNCC and DWASA MoU signing etc.

Alauddin Ahmed's talk focused on the impact of climate change on sanitation services in two cities. He highlighted how rising sea levels and temperature fluctuations cause flooding and waterlogging, which disrupt the functionality of sanitation systems. He stressed that people living in vulnerable areas and marginalized communities are disproportionately affected by these changes. In other words, Alauddin discussed how climate change is making it harder for cities to provide sanitation services, and how this is especially impacting the most vulnerable members of society. Concerning the UNICEF-led plan for securely managed sanitation, Tariq talked on how crucial it is to put up institutions and create capacity, especially in the beginning. In addition, he underlined the importance of public involvement and the greenhouse gas inventory that was made by the North and South Dhaka City Corporations. Tariq also emphasized the necessity of low-cost, climate-resilient sanitation solutions in impoverished areas.

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# Closing Session



**Rapporteur name:** Nafis Imtiaz Hossain

**Organization:** ICCCAD

## Speakers

1. Fateen Fateh, Programme Assistant Gobeshona Programme, ICCCAD
2. David Gonzalez, Policy Officer, Global Resilience Partnership (GRP)
3. Noor-E-Elahi, Programme Coordinator, Partnership Programme, ICCCAD
4. Prof. Mizan R Khan, Deputy Director, ICCCAD

## Speaker 1: Fateen Fateh

The South Asia Regional Resilience Hub was a seven-day virtual event focused on resilience in South Asia. It involved 38 organizations and saw participation from numerous others throughout the week. The event's objectives were to share best practices, build collaborations, and amplify local actors' messages for future action on adaptation and resilience. The sessions covered a wide range of topics on 6 themes including finance and investment, water and natural eco system, food and agriculture, humanitarian actions and disaster risk reduction, infrastructure, energy, mobility, and cities and urbanization. Fateen highlighted the importance of building resilience and taking climate action in South Asia. She also discussed the various initiatives, themes, and projects that were discussed throughout the week.

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### **Key points from the speech include:**

- The importance of collaboration, innovative solutions, and resilience-building efforts to address climate change challenges in the South Asian region.
- Specific projects in South Asian countries that are addressing the economic implications of climate change, flood resilience, data collection, digital technologies, financial services, and other strategies to combat climate challenges.
- The issue of farmer suicides due to water scarcity, drought, and other factors in South Asian countries, and efforts to provide care and rehabilitation for farmers, along with women farmers-targeted weather and agro-advisory information services.
- The issue of non-economic loss and damage due to climate-induced disasters, and community initiatives to combat the impact of sea-level rise on mangroves.
- The importance of coastal areas and cyclone shelters, eco-friendly materials, accessibility for disabled individuals, renewable energy projects, sustainable practices like rainwater harvesting, urban green spaces, expertise from plant doctors, and affordable sanitation technology in urban settlements.

The speech concludes by emphasizing the need to prioritize the voices and experiences of marginalized women in climate discussions, as they bear a disproportionate burden of climate and water-related issues.

### **Speaker 2: David Gonzalez**

David the coordinator of the Regional Resilience Hubs provided a brief idea of the concept of the Regional Resilience Hubs at COP 28 and highlight how messages emerging from these sessions connect to the discussions at the resilience hub and also supporting UN High Level Champions for race to Resilience (R2R). In his speech, he applauded the efforts to organize over 20 sessions on adaptation and resilience during the week.

The regional resilience hubs are an integral part of the overall resilience hub and work throughout the year to build momentum for COP28. He also mentioned that there are regional hubs in South Asia, Africa, Latin America, and Asia Pacific. He then discussed the role of regional resilience hubs in delivering an overarching vision for the resilience hub. He highlighted the importance of involving youth, women, and minority groups in decision-making and shared insights into the work of regional resilience hubs. The hubs provide platforms for dialogue and discussion on adaptation and resilience, enabling grassroots organizations to share their knowledge and priorities. He explained that the hubs have become an integrated component of the overall resilience hub and have been engaging from the programming element of the resilience hub all the way to the delivery and oversight of the different themes that would be discussed at the resilience hub.

David also provided some examples of key messages from some of the sessions held during the week, which emphasized the importance of youth in agriculture, gender equality, sustainable agriculture practices, and the involvement of women in water resource management. In the context of disaster risk management, he discusses the shift from providing weather information to informing people about the impacts of climate change and the importance of locally led adaptation for forecasting and preparedness. In his presentation he encouraged participation in the upcoming resilience hub at COP28, he mentioned that all sessions will be live-streamed for a global audience to follow and engage in the discussions.

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Overall, the speech highlights the significance of regional resilience hubs in promoting local voices and priorities in the global dialogue on resilience and adaptation to climate change.

### **Speaker 3: Noor-E-Elahi**

Noor-E-Elahi's speech on partnership for climate resilient development focused on the importance of partnerships in addressing climate change and achieving sustainable development. He also mentioned the challenges of cross-sectoral collaboration, such as lack of trust, conflicting interests, power imbalances, and different timelines. He emphasized the need for multi-stakeholder approaches to address complex issues related to climate change and the potential of dialogue as a modality for improving stakeholder collaboration. He also mentioned the importance of international events in providing a platform for dialogue and collaboration, like the South Asian Resilience Hub event as an example of a platform where stakeholders can listen to each other, identify common ground, and integrate different perspectives into development strategies.

### **Closing Remarks-**

#### **Speaker 4: Prof. Mizan R Khan**

Prof. Mizan R Khan the Deputy Director of ICCCAD provided the closing remarks. In his remarks, Mizan Khan expresses gratitude to all the participants and organizations for attending the week-long intensive deliberations on resilience, emphasizing the critical importance of the climate resilience initiatives. He acknowledged all the co-hosts, particularly ICCCAD, for their role in organizing the event, which is seen as a preparatory step for COP28.

In his perspective the week-long virtual hub had focused on various themes, all of which are extremely important for addressing the challenges posed by climate change. Prof. Mizan highlighted the interconnection of these themes also the need to link stakeholders with these issues to ensure a more impactful presence at COP28. He emphasised that the primary focus should be on the most vulnerable communities whose voices often go unheard and unnoticed.

Prof. Mizan outlines ICCCAD's mission as a capacity-building organization that works with communities, government officials, NGOs, and various stakeholders to build resilience and adapt to climate change. He mentions ICCCAD's convening power and its global recognition.

The speaker also mentions the upcoming 7-day event, covering different time zones, where participants will share lessons and practices related to adaptation and resilience. He emphasizes the importance of learning from both adaptation failures and best practices.

Mizan Khan highlights the significance of locally led adaptation, as centralized management has not proven effective in the past. He believes that partnerships at different levels, from local to global, are essential to address the global problem of climate change effectively.

In conclusion, he expresses hope that the participants from the week-long event will join the resilience hub at COP28 in Dubai and offers his thanks to the organizing team and participants. The closing statement ends with an invitation to see each other again in Dubai the following month.

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# Key Messages of the South Asia Regional Resilience Hub-2023

- Climate change impacts vary across South Asia but adaptation can be strengthened through shared learning and community empowerment.
- Operational mechanism of Loss and Damage fund should be flexible to amplify access by the vulnerable countries.
- Youth engagement in addressing critical issues related to sustainable energy, infrastructure, and mobility is important as the youth demonstrated passion, creative thinking, and commitment to collaboration and partnership.
- Women in rural communities are at the forefront of coping with climate extremes, but they face significant work pressure and need more support.



## Organized By

# RESILIENCE HUB



## Thanks to the hosts

