

Climate Data | Opportunities for Resilient Development

Hindu Kush Himalaya Regional Conference Report

October 12-13, 2022

Making Data Accessible through Transformative Collaborations in the Hindu Kush Himalaya Region



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GIZ Bangladesh

89 Gulshan Avenue, Simpletree Anarkali

Gulshan 1, Dhaka 1212, Bangladesh

PO Box 6091, Gulshan 1

Dhaka 1212, Bangladesh

T +880 966 6701 000

F +880 2 5506 8753

E giz-bangladesh@giz.de

I www.giz.de/bangladesh

Project

‘National Adaptation Plan and Nationally Determined Contribution Support Programme’ and
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Authors

Tanzia Amreen Haq

Shakil M Faisal

Editors

Tim Steiner

Alina Schulenberg

Tahmina Sultana

Farha Anika

Mohammad Ishtiuq Hossain

Emilia Huss

M Mahmudur Rahman

Design and Layout

Anika T Karim

Print

PATHWAY

Photo and Artwork

GIZ BD

Tahsin Mosharaf Toya, Sakib Ahmed, Md. Imamuzzaman Mahin, Md. Abdul Ahad,

Jannat Ara Joshinta, Sohail Ahamed Tamim, Umme Tabassum Diba, Sayed Abdul Mukid,

Moumita Misti, Afifa Maskura

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March 2023, Dhaka, Bangladesh

MAKE
IT A
BETTER
PLACE

USE
SOLAR ENERGY

PLANT A TREE

Message from Sanjay Kumar Bhowmik

Additional Secretary
Ministry of Environment, Forest and Climate
Change



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), in collaboration with the Ministry of Environment, Forest and Climate Change (MOEFCC), the Planning Commission (PC) and the Department of Agricultural Extension (DAE) have organized the regional climate data conference “Climate Data: Opportunities for resilient Development” in Dhaka on 12th and 13th October 2022. This was a great initiative which paved a pathway to discuss on barriers and opportunities for climate data availability in the context of Hindu Kush Himalayan countries.

The MoEFCC is accredited to formulate necessary policy frameworks and mechanisms for addressing the effects of climate change. The Bangladesh Climate Change Strategy and Action Plan (BCCSAP-2009; updated BCCSAP-2022), the updated Nationally Determined Contributions (NDC-2021) and the National Adaptation Plan (NAP-2022) are among some of the policy documents put in place. The MoEFCC is responsible for providing sector-specific guidance and support in the development, implementation, monitoring and evaluation of climate change-related projects. In doing so, climate data represents a useful tool to reveal the negative impacts of climate change in the region, representing a basis to negotiate with other countries on the topic of loss and damage.

Challenges resulting from climate change create priorities which can counteract policies and decisive actions. Therefore, Bangladesh has recently adopted the Mujib Climate Prosperity Plan (2022-2041) which shifts the country’s trajectory from vulnerability to resilience and prosperity. We were the pioneers in establishing the Bangladesh Climate Change Trust Fund (BCCTF) in 2009 to help vulnerable communities. So far, BCCTF has undertaken 850 projects with investments amounting to 490 million USD. In recognition of our progressive role in addressing climate change at the national and international level, the Global Commission on Adaptation (GCA) has established its GCA Regional Centre for South Asia in Bangladesh.

As a cross cutting issue climate change is threatening all of us. Enhanced climate data generation, preparation and sharing will help us with concise policy decisions and action plans to advance our endeavors in saving the region. My heartfelt appreciation goes to GIZ for arranging this conference as it brought together relevant stakeholders across the Hindu Kush Himalayan region to discuss challenges and ways of ensuring climate data availability and accessibility. I hope that the recommendations derived from the conference will be effective in serving its purpose.



Sanjay Kumar Bhowmik
Additional Secretary

Ministry of Environment, Forest and Climate Change



Message from Khandker Ahsan Hossain



Chief, Programming Division
Bangladesh Planning Commission
Ministry of Planning

Ministry of Environment, Forest and Climate Change (MoEFCC), the Department of Agricultural Extension (DAE) under the Ministry of Agriculture (MoA) and the Programming Division of the Bangladesh Planning Commission (PC) with the support of GIZ Bangladesh has organized the conference “Climate Data: Opportunities for Resilient Development” on 12th and 13th of October 2022 in Dhaka, Bangladesh and indeed, it is a noble initiative.

The Planning Commission has been very prominent in formulating policies and plans such as the Five Year Plans, the Perspective Plan 2041 and the Bangladesh Delta Plan 2100 to tackle climate change and has been keen to include climate change concerns in mainstream development. However, without access to climate data and climate risk information, it is almost impossible to have specific plan of actions and contextualise the implementation.

Nowadays, the Planning Commission is not only formulating plans and policies but taken several initiatives to develop digital tools or platforms for decision making process. The Disaster and Climate Risk Information Platform (DRIP) is one of these initiatives. It aims to strengthen the institutional capacity of the Government of Bangladesh for assessing, understanding and communicating disaster and climate related risks, with the goal of integrating disaster risk information into development planning and budgeting as well as policies and programs.

Moreover, the Programming Division with support from GIZ is preparing the Planning Information System (PLIS) in order to use climate risk information during development planning, appraisal and implementation processes to strengthen the climate resilience of public investments.

It makes me happy to realize that this conference aimed to bring stakeholders from across the Hindu Kush Himalayan region to boost conversations surrounding the barriers to and opportunities of accessing climate risk information and collaborations in data sharing across borders. I believe that the conference has been effective in accomplishing its objectives and each one of us will demonstrate this in our respective workplaces. I think the recommendations from the conference are very time worthy and valuable for the Bangladesh Planning Commission. I am pleased to know that the results of the conference are being published and hope that this report will be very helpful for all of us.

Joy Bangla.


Khandker Ahsan Hossain
Chief, Programming Division
Bangladesh Planning Commission
Ministry of Planning



Message from Dr. Mst. Farida Perveen

Deputy Director
Department of Agricultural Extension
Ministry of Agriculture



In recent decades, Bangladesh's agricultural sector has experienced significant growth. This sector is vital for accelerating economic growth, ensuring the nation's food security, reducing rural poverty, creating jobs and earning foreign exchange. Agriculture is Bangladesh's economical backbone. It currently is the biggest producing sector, accounting for around 14.22% of the national GDP. But the agricultural sector is highly vulnerable, as many of the farming activities are situated in the Bengal Delta which is extremely sensitive to climate change. Hazardous climate change-related shocks will impact the productivity of this sector more and more. It is time to act appropriately to combat the effects of climate change as agricultural productivity is a vital aspect of food security and economic prosperity.

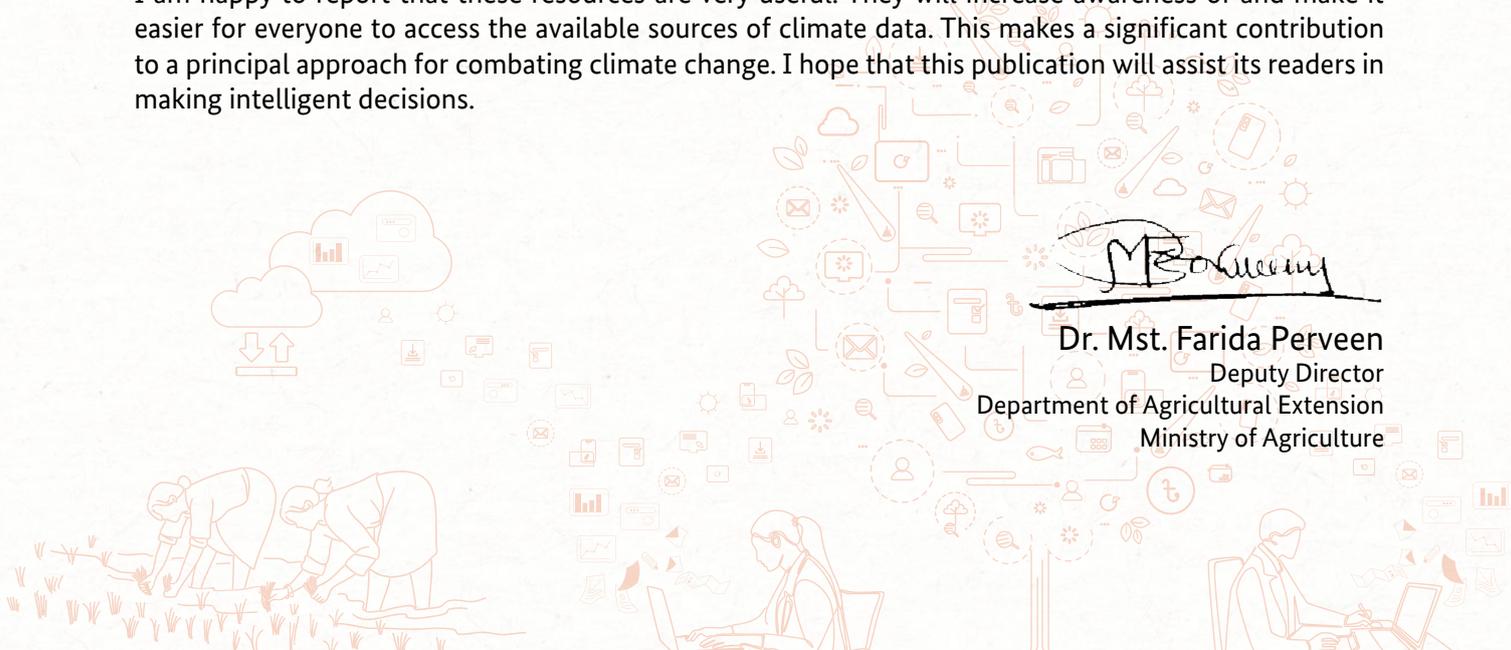
The Department of Agricultural Extension (DAE) is dedicated to promoting high-quality and long-lasting agricultural extension services to farmers across the nation. Our goal is to ensure the safety of Bangladesh's farming communities and a safe and reliable food production system for all citizens. A significant portion of the population in Bangladesh depends heavily on the agriculture sector for their livelihoods. Hence, it is important that the sector is successful, long-lasting, environmentally friendly and resistant to the effects of climate change. Access to reliable sources of climate data is still a major problem in this context.

Under the "NAP and NDC Support Project", DAE has been collaborating with the Ministry of Environment, Forests and Climate Change and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to promote an improvement in the nation's climate data situation. A regional conference on climate data, among other events, was conducted in October 2022 to emphasize the necessity of data sharing. The Climate, Gender and Vulnerability Pre-Assessment (CGVPA) tool, general modules on climate change and related topics, a training manual on general and specific training as well as a brochure on the sources of climate risk information for the planning processes have all been developed by the NAP and NDC Support Program.

I am happy to report that these resources are very useful. They will increase awareness of and make it easier for everyone to access the available sources of climate data. This makes a significant contribution to a principal approach for combating climate change. I hope that this publication will assist its readers in making intelligent decisions.



Dr. Mst. Farida Perveen
Deputy Director
Department of Agricultural Extension
Ministry of Agriculture



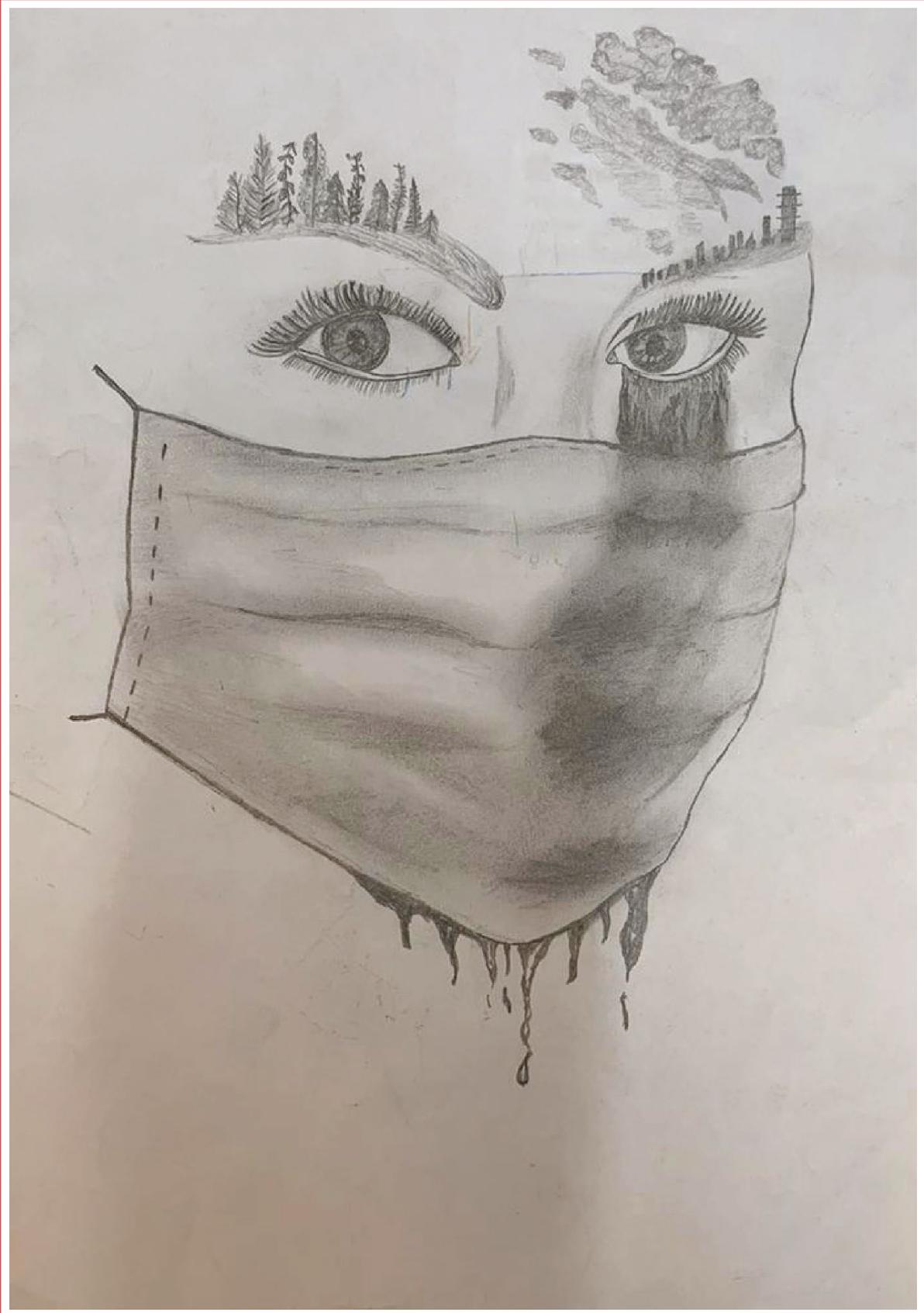


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Abbreviations

ACCNLDP II	Adaptation to Climate Change into the National and Local Development Planning
BMZ	German Federal Ministry for Economic Cooperation and Development Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung
BSG	Bangladesh Society of Geoinformatics
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCTF	Bangladesh Climate Change Trust Fund
CEGIS	Center for Environmental and Geographic Information Services
CGVPA	Climate, Gender and Vulnerability Pre-Assessment Department of Agricultural Extension
DAE	Department of Agricultural Extension
DRIP	Disaster and Climate Risk Information Platform
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GCA	Global Commission on Adaptation
HKH	Hindu Kush Himalayan
ICIMOD	International Center for Integrated Mountain Development
IPCC	Intergovernmental Panel on Climate Change
IUCN	International Union for Conservation of Nature
KU	Khulna University
MoA	Ministry of Agriculture
MoEFCC	Ministry of Environment, Forest and Climate Change
NAP	National Adaptation Plan
NDC	Nationally Determined Contributions
PC	Bangladesh Planning Commission
PLIS	Planning Information System





Introduction

GIZ Bangladesh, on behalf of the Bangladesh Ministry of Environment, Forest and Climate Change (MoEFCC), the Bangladesh Department of Agricultural Extension (DAE), and the Bangladesh Planning Commission (PC), organized a regional climate data conference in Dhaka on 12th and 13th of October 2022. The aim of the conference was to initiate a discussion on opportunities and barriers of accessing climate data and climate risk information, to discuss ways of ensuring climate data availability and accessibility and to explore collaborations in the countries of the Hindu Kush Himalayan (HKH) region.

Countries of the HKH region partly share ecosystems and experience similar effects of climate change. There are also upstream-downstream linkages, meaning that the effects of climate change at the Himalayan glaciers directly affect the delta. Hence transboundary data sharing can play an important role for enhancing resilience to abrupt climatic impacts and improving understanding of upstream-downstream linkages. The conference brought together government representatives from Bangladesh, researchers, entrepreneurs, NGOs and CSOs from the region.

Day 1 of the two-day long conference had a focus on analysing the status quo. Challenges of climate data availability and accessibility in the HKH region were discussed.

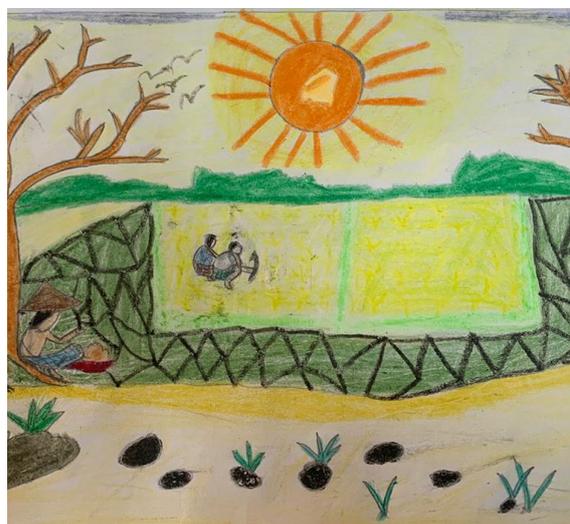
Day 2 of the conference focused on the identification of actions to address those challenges. Good practices and trends from the region, the role of climate data translation and communication, as well as opportunities for sustainable collaborative actions were explored. Different organisations exhibited best practices for tackling climate change impacts with stalls.

The conference was complemented with a picture exhibition of artworks by children from Sirajganj in Bangladesh.

Key take-aways

One key take-away from the conference was that climate data is crucial for achieving resilient development. Development planning and the implementation of policies and plans are more targeted and more likely to be successful if they are based on climate data. This is particularly relevant when there are only limited resources available for investment in resilient development.

At the local level, climate data such as climate risk information, weather updates and forecasting as well as information on climate trends and patterns can support vulnerable communities in increasing their climate resilience and disaster preparedness. However, there is a regional variance when it comes to climate change and its effects on the ground. Due to geographical diversities and interdependencies, there is currently a lack of accurate data and projections at the local level. Therefore, climate data resolution needs to be increased and climate data needs to be shared within countries and across the region. One way to do this is with the establishment of an amicable, cooperative and cost-effective climate data sharing protocol among these nations. Based on this a regional climate data system and a regional multilingual umbrella climate knowledge portal for climate data could be installed for a sustainable future.





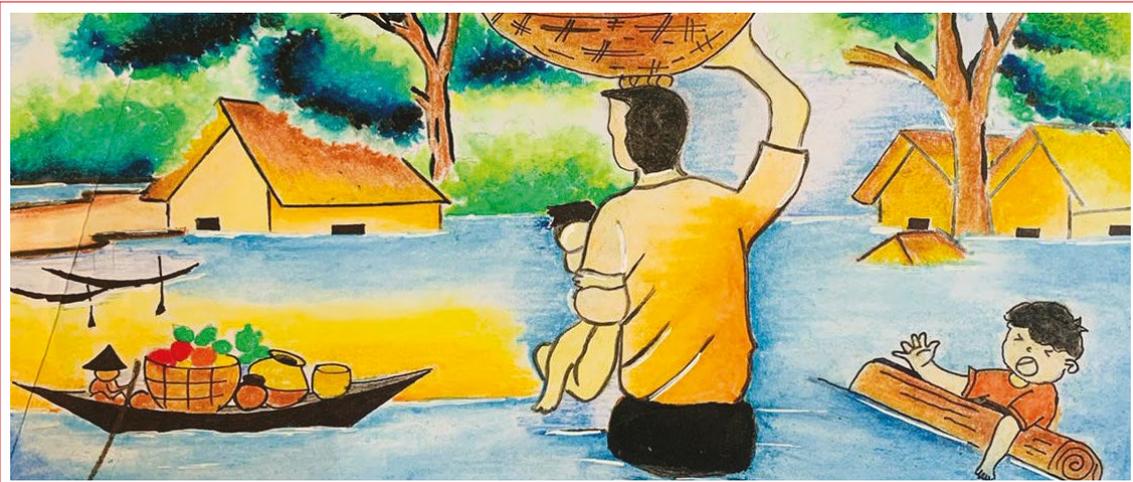
Day 1

Climate Data Challenges and Opportunities

Day 1 of the conference looked to understand the status, central issues and challenges of climate data availability, accessibility and usage in the HKH region. These subjects were discussed in depth in four sessions.

The status of climate data availability and accessibility in the HKH region was described as having some need for improvement. Speakers emphasized that, whilst there is great potential in using climate data for resilient development planning, this potential is currently not fully unlocked. Practitioners, researchers and policy makers face several challenges when it comes to accessing and using quality data. Also, climate data is not taken into account sufficiently in strategy and policy formulation as well as considered during implementation. The following challenges along the data value chain were discussed:

- *Climate data generation is resource intensive:* Technical instruments are expensive and once they are procured and installed, they need to be maintained regularly by qualified technical staff. The generated data needs to be monitored, analysed, stored and communicated. All this requires substantial technical and human capacity and financial resources. Since climate data needs to be generated continuously to understand climate trends and patterns, those resources are required over a long period of time to ensure good data quality.
- *Poor data quality:* Currently, data in the HKH region is often fragmented and not sufficiently updated which limits its usability.
- *Low data resolution:* While there are reliable climate projections at the regional levels, when it comes to the local level climate data is scarce and particularly at the microscale there is a lack of reliable climate data. Because the effects of climate change can vary a lot within different locations, as climate interacts with ecological and geological context, a higher climate data resolution is necessary to understand and prepare for these effects and increase local resilience.
- *Lack of coordination between climate data generating entities:* On the positive side there is a variety of actors (public, non-governmental and private entities) that collect climate data in the region. But there is a very low level of coordination between these entities with regards to climate data format and data sharing. Some policies on data sharing do exist. But they are not enforced or practiced properly and there is no data collection protocol or platform for sharing climate data that is widely used, including by state actors.



- **Data format:** As different data generating entities choose different formats and storage solutions for their data, data comparability is limited and integration of data from different data sources in one analysis is difficult.
- **Data accessibility:** Partly because the creation of accurate climate data is so resource intensive, entities are often reluctant to share this data or only make it available upon payment of a fee. This significantly limits the access to data for students, researchers, entrepreneurs, practitioners and even officials and hinders research.
- **Vulnerable and marginalised people at the local level are not sufficiently included in data generation.** These people face major barriers to accessing climate data and information especially precise information to survive with their lives and livelihoods. They should be engaged in the data collection, discussion, policy making and dissemination processes as the data needs to come from the bottom-up, addressing the challenges faced by those who are most vulnerable to climate change.

- **There is a lack of gender disaggregated data to contextualise climate data.** It is particularly relevant when it comes to designing gender inclusive adaptation policies. Without gender disaggregate data there is no baseline for indicators to measure how men and women are affected by policies, resulting in policies that do not sufficiently take women’s needs into account. This is specifically important as women are often more vulnerable to climate change impacts because of certain societal pressures than men.
- **Climate data dissemination and communication:** There is a lack of a proper system for effective dissemination of data information to all target groups.
- **Gaps in understanding and use of climate data and information at all the levels.** Data generating entities are not having end-users of their data products sufficiently in mind when creating them.

Day 1 ended with a screening of an award-winning documentary “Once You Know”, which portrays the devastating impacts of climate change as well as the urgency for immediate action.



Emmanuel Cappelin - Director, Once You Know



Day 2

Climate Data Opportunities and Actions



After diving deep into understanding challenges on day 1, **day 2** of the conference focussed on finding solutions. Speakers presented best practices that have already proven to be successful and specific ways of connecting climate data and communication with effective policies for resilient development. The conference wrapped up with an exploration of possible ways forward and collaborative action. In a very engaging and open discussion, participants were animatedly involved in sharing their experiences and ideas.

The following potential solutions to climate data challenges were discussed:

- **Data transparency and open data system:** There needs to be a wide understanding of the value of open access to data. Data generating entities need to reflect on the benefits of open access data and explore options for sharing data collected under different projects and initiatives, so that this data can be utilized in various research initiatives. Cross-boundary and cross-institutional data sharing can create added benefit for everyone involved.
- **Strengthening of political commitment, as well as resource-mobilisation** for regional collaboration on climate data sharing. Advocacy for climate data sharing needs to take into account the systemic challenges and find solutions for them.
- **Promotion and strengthening of multi-stakeholder coalitions and partnerships across the fields to support collaboration among governments.** Partnerships and networks between academia, government organizations, civil society and the private sector need to be strengthened to facilitate data sharing and cooperation for enhanced climate resilience. Innovative techniques and approaches such as co-creation and co-design solutions can be used. Collaboration with universities and think tanks can further the process of making data free and open to all.
- **Increasing technical assistance through bilateral and multilateral channels to strengthen transnational cooperation:** Technical assistance can support with investment in data infrastructures. Data generation, measurement, integration, translation and communication need those investments.

- *Government leadership for a high quality and reliable climate database.* Governments could take a central role in data collection initiatives to ensure reliable and quality data output. Involving academia, students, researchers and local people with establishing systems for relevant monitoring and availability of necessary technical equipment would be beneficial. This would also increase the legitimacy of the created data from the government perspective.
- *Creation of climate data products with policy makers* will strengthen the use of climate data. Policy makers are more likely to take up climate data for strategies, policies and implementation, if they have been involved in the creation of the climate data products. Therefore, efforts should be made to involve policy makers in the design of climate data products.
- *Establishment of a standard data format in the HKH region* is necessary for wider use and processing of that data on a very practical level.
- *Establishment of self-learning, technical solutions to downscale climate data from global to regional to national and local level:* Machine learning and Artificial Intelligence (AI) systems can be utilized in data gathering, clustering and data quality assessment and support the creation of reliable, high-resolution data. This requires capacity building for operating a General Circulation Model (GCM), a Regional Climate Model (RCM) and climate data management meta information.
- *Establishment of a regional multilingual umbrella climate knowledge portal:* An open-source and open access portal can allow stakeholders to contribute and access climate data and information. With this bottom-up approach data generation as well as access can be strengthened.
- *Climate data needs to be included in planning across sectors* because climate change is a cross-cutting issue.
- *Targeted Climate Data translation* must focus on target audience groups while creating, and efforts should be made to involve policy makers in the design of data products.
- *Linking climate data with historical facts and traditional approaches* from local communities increases resilience. Local communities can be engaged in data collection and sharing.
- *Promotion of action research and innovation to optimise implementation of adaptation measures with combined approaches* on different areas including biodiversity, establishing an easy to access knowledge data portal, or web portal that are compromising are highly recommended. The impacts of climate change on biodiversity do not occur instantly. So, comprehensive mid- and long-term plans should be initiated to counter the future impacts.
- *Capacity building initiatives for all types of stakeholders on interpretation of data projection and its usage by sector, creation of data simulations and data access.* Capacity development of regional climate professionals needs to be ongoing to keep pace with the technological innovations. Technical capacity of institutions and stakeholders needs to be strengthened and communities empowered. Capacity building is also necessary for data communication and coordination. Youth can be mobilized in data collection as well as utilized in data management and analysis through necessary capacity building.
- *A regional climate action plan* can act as a connection between countries in the region to bridge data gaps and tackle climate change together.

Day 2 ended with an outlook by the diverse set of climate data experts and closing remarks from Dr. Farhina Ahmed (Secretary, MoEFCC), Dr. Farida Perveen (Deputy Director, DAE) and Khandker Ahsan Hossain (Chief, Programming Division, Planning Commission (PC)).





Conference Sessions

Session 1: Experiential Session: Climate Risk and Forecasting

Dr. Pablo Suarez (Red Cross Red Crescent Climate Centre) illustrated in this interactive session with comics and games how climate change vulnerability and risk work in practice. The session started with a short input by Dr. Suarez, who argued that the use of humour and playfulness can help us make something complex like climate data and science become accessible and understandable. According to Dr. Suarez, humour creates trust and change happens with trust. Therefore, looking at the world with the lens of a humourist can help to understand conflicts, risks and ambiguity better. It encourages people in thinking differently, so that we could resolve conflicts and act together.

After the input Dr. Suarez engaged the audience in different interactive games that illustrated how climate risk, vulnerability and resilience work.



“To get ready for the changing climate, we have to make better use of knowledge. And Climate data plays a critical role in assessing climate risk information, determining climate change patterns, adopting policies. Here, timely collaboration could lead to better future of the region.” - Dr. Pablo Suarez

Session 2: Official Welcome and Opening

Dr. Dana de la Fontaine (GIZ) highlighted that GIZ Bangladesh, acting as part of German Development Cooperation, sees knowledge generation and data sharing on climate risks as essential for taking more sustainable policy decisions in the future. She said that climate data sharing can be used to understand the mega trends of the region. *“It is about understanding the facts and trends of climate change, and how we as political systems and the society can adapt to that. For this, we need concrete data, and how this data can best be provided, gathered, analysed and shared among countries to understand the mega trends of the region,”* concluded Dr. de la Fontaine.

Mrs. Nusrat Noman (PC) stated that the people of Bangladesh are dependent on natural resources for their livelihood and that Bangladesh is one of the most vulnerable countries for climate change impacts. Therefore, the government of Bangladesh has formulated a number of policies and plans i.e. 8th 5-year plan, Bangladesh Delta Plan 2100, Perspective Plan 2041, Mujib Climate Prosperity Plan and NDC. The Bangladesh Planning Commission has also taken initiatives to develop digital platforms for the decision-making process i.e. DRIP (Disaster and Climate Risk Information Platform), a specialized software app to strengthen the institutional capacity of the Government of Bangladesh for assessing, understanding and communicating disaster and climate related risks. Currently, Bangladesh is in the process of developing a PLIS (Planning Information System) platform to appraise investments through the lenses of climate change data and risk information. *“Data has played crucial role in formulation of these plans and policies, we hope that the conference will add more to the discourse and find ways towards resilient development.”* finished Mrs. Noman.

Mr. Sanjay Kumar Bhowmik (MoEFCC) said that the challenges due to climate change have made them pri-orities counteracting policies and that decisive actions are needed. Sharing Bangladesh’s track record in early adoption of national policies and signing of global treaties, Mr. Bhowmik noted that Bangladesh adopted the Mujib Climate Prosperity Plan recently. This shifts Bangladesh’s trajectory from one of vulnerability to resilience and prosperity. Referring to the foundation of Bangladesh Climate Change Trust Fund (BCCTF) from its own resources, Mr. Bhowmik informed that around 800 projects have now been under implementation in the forms of mitigation and adaptation activities. Recognizing climate vulnerabilities of the region, Bangladesh with the support of South Asian Heads of States and Governments has recently established the Global Centre of Adaptation in Dhaka, launched in September 2020, revealed Mr. Bhowmik. *“Climate change is a cross cutting issue, and enough data generation will help us in policy deci-sions, action plans and advancing our endeavours further to save the region,”* completed Mr. Bhowmik.

In the speech of the **Chief Guest, Habibun Nahar MP (MoEFCC)** said Bangladesh has been an important role player in triggering discussions and called for actions in different regional and global forums and plat-forms. Mrs. Nahar hoped that the conference would open doors to learn about data availability, data gaps and corresponding challenges, practices, and how to translate climate data into policies and information communications.

Session 3: Status of Climate Data Availability and Accessibility in HKH Region

Dr. Dilip Kumar Datta (KU) emphasised that precise climate data can support decision-makers and local communities to understand climate change effects in their areas more clearly and incorporate this knowledge into decision-making frameworks and adaptation activities. To get precise climate data in microscale, data resolution is vital. Data accessibility, reliability and availability are also important to understand climate change patterns. However, countries of the region lack sufficient data infrastructures to have those.

Mr. Malik Fida A. Khan (CEGIS) pointed out that cooperation needs to be strengthened to improve availability and accessibility of climate data and information in the HKH region. According to Mr. Khan, collaboratively, sea level rise and salinity intrusion can be projected for future scenarios in the HKH region and planning can be done accordingly with precise climate data. To capture the data and information, to have a better plan especially for adaptation and mitigation, a common climate data platform is very important. Mr. Khan said that climate model information is also very important to generate information and make adaptation and action plans.

Mr. Sudip Pradhan (ICIMOD) described a regional database system established by ICIMOD, which is a central data repository storing data from different thematic areas including climate. It allows easy access (downloadable) to data through the Regional Database System (RDS) and offers meta data catalogues under a meta data policy that is aligned with philosophy of 'open and free access to scientific information and knowledge'. The database provides chronological data on flood inundation maps, land cover maps, among other climate data which can be used to track and compare climate patterns to predict climate activities and take policy and investment decisions accordingly.

Mr. Anuj Sharma (Earth Analytics) spoke to the challenges on accessibility and data sharing. He pointed out that currently available datasets are often owned by institutions supported by different donors across the world and that these institutions are reluctant to share their data. Also, academics, policymakers, institutions and practitioners are often found disinclined in sharing their knowledge and data and to come up with solutions. This leads to a lack of data availability. Mr. Sharma noted that there is a need to linking the data analytics with economic development including intersections of finance and local communities who are the primary beneficiaries of the activities. It is crucial for local start-ups to work in this field to close this gap involving local participation and collaborate with other start-ups in other countries in the region working on the same climate solutions.

“We have two billion people crammed into a very small region, Himalaya. If the Himalayas, the most vibrant, bio sensitive geography out of the three polls are destroyed, all 2 billion of these people dependent on these mountains will perish. It is crucial to have data transparency to preserve the Himalayas,”
completed Anuj Sharma.



Mrs. Hasna Jasimuddin Moudud (IUCN) stated that now is an opportune time to talk of regional cooperation given the climate disasters the region is facing. Despite the fact that comprehensive data on climate change is currently available to some extent, water sharing and collaborative management are not visible among countries sharing transboundary rivers and some of the most vulnerable local groups are still excluded from using this data when they could use it the most. Because of certain societal pressures, women are specifically more vulnerable to different climate change induced disasters.

Mr. Shamim Ahmed Mridha (Eco-Network) called for the inclusion of youth in climate research activities and data analytics. As per the discussion, the current climate conditions in the HKH region require increased collaboration among the regional countries in the collection and management of climate data. The data needs to come from in bottom-up approach, addressing the challenges faced by those people who are most vulnerable to climate change. There are many platforms and organizations active with different capacities on data analytics in the region who can generate different sets of data, manage accessibility and availability. A consensus among the donors, vulnerable countries and organizations needs to be established to ensure the sustainability of climate data for the greater good. The establishment of knowledge portals including a regional one from which everyone working in climate resilience can access the data, share climate information and use traditional approaches will help profusely in countering climate risks. Regional and transnational cooperation to counter climate change challenges is crucial.

Session 4: Challenges of Data Availability and Usage

Dr. Taibur Rahman (IMED, MoP) emphasised that reliable and timely data plays a key role in policy formulation. Although Bangladesh has made significant progress in adopting climate related policies, most of them are based largely on the available global and regional climate data. The government can be one of the main users of the climate data. It is important that it invests in the right projects, based on real data. Dr. Rahman observed that the lack of climate data severely affects effective policy formulation as the rarely available data are mostly from secondary sources and cannot be wholly relied upon. In addition, lack of diversified research, future projection tools, equipment to gather and measure actual and real time quality data and coordination among actors also limit the ability of policy bodies to use climate data for policy formulation. Furthermore, fragmentation and overlapping mandates of different offices affect the policy processes. Data is very important for the bureaucrats to prepare the options for the politicians so that they can understand the probable impact of their decisions, which affect millions of people.

Mrs. Dilruba Haider (UN Women) said that gender disaggregated data is a requirement for gender mainstreaming. Adaptation is about people and women are disproportionately affected by climate change. Therefore, gender disaggregated data is particularly relevant when it comes to designing adaptation policies that takes women's needs into account.

Highlighting on sector-specific data and sectoral activities linking with biodiversity, **Mr. Raquibul Amin (IUCN)** said, the ecosystems of HKH region are interdependent, correlated and interconnected. To determine the causes of the loss of biodiversity, sufficient climate data and adequate research needs to be undertaken to fully understand the linkages.

Prof. Sharmind Neelormi (Jahangirnagar University) spoke on the issues of demand, challenges of collecting data including geographical difference (rural vs urban), and disaster resilience. Prof. Neelormi said that dissemination of climate data to real vulnerable people in terms of forecasting is still quite hasty. Data collection at community level and dissemination of climate information needs to be strengthened.

Mr. Gyanendra Karki (UNEP) explained that there are different bodies for hydrological, meteorological and geological data and that there is not enough research on effects of climate change on biodiversity. The few conducted studies indicate long-term changes. So, long-term plan for biodiversity protection is needed. In addition, different organisations have different data storing structures which makes it difficult to understand and access. Governments in the region lack single data storing platforms and a data sharing protocol with lack of inter-agency communication and coordination, thus making the data inaccessible. Finally, data accuracy is low and some data like the Digital Elevation Model (DEM) are outdated.

Session 5: Good Practices and Trends from the Region

S.M. Mehedi Ahsan (Bangladesh Global Centre on Adaptation) commenced the session by reiterating that data is key in policy decisions. Without unimpeded access to data, policymakers cannot make sustainable investment decisions and manage climate risks.

Dr. E.N. Rajagopal (IITM) described the Monsoon Project, which uses data to predict climate developments and can help to understand effects on energy crises, global water supply, resource accessibility and preservation. IITM's repository currently has 42 years' worth of weather and climate data sets available for free access.

Dr. Mandira Shrestha (ICIMOD) posited that climate information systems help to protect the most vulnerable communities from climate change through services such as precision early warning. At ICIMOD, there are collaborative projects among countries of the HKH region working to improve application and access to weather, seasonal and climate information.

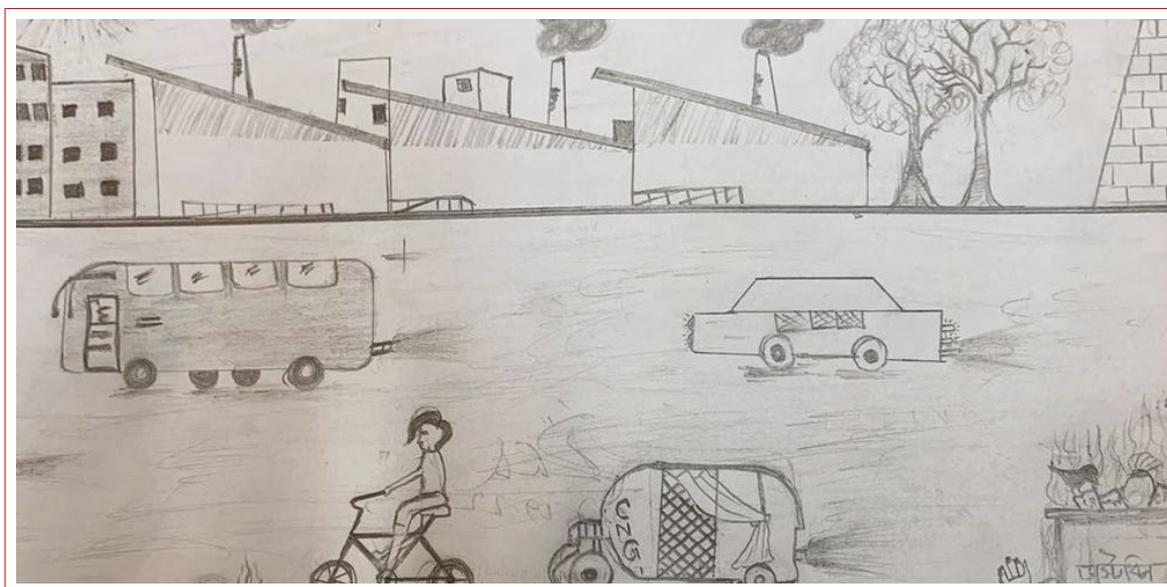
Mr. Ruwan Samaraweera (IPS) said that there are two gaps in the dissemination and communication of climate information: lack of capacity of farmers to understand relevant information, and the reluctance of farmers to trust non-traditionally procured data. These gaps have been addressed by IPS through an integrated climate information management system in consultation with local farmers and meteorological stations to create integrated climate information.

Mr. Anuj Sharma (Earth Analytics) said that open-source algorithms can help measure regenerative agricultural practices. These algorithms can connect academics, farmers, researchers and other relevant stakeholders in the creation of sustainable climate products and develop insights.

Dr. Faisal Mahmud (Johns Hopkins University Center for Communication Programme) emphasised that due to climate change, disease patterns have been changing and impacting women in particular. Bangladesh's government has the mechanism to create gender disaggregated data that can help policy-makers address climate impact through a gendered lens.

“40 percent of the soil in India's agricultural hubs are destroyed beyond repair due to the use of fertilizers. At Soilify, we aim to use data to develop practices for regenerative soil. This is currently being done in India but can be replicated elsewhere”, said Anuj Sharma.

Session 6: Climate Data Translation and Information Communication



Mr. Johannes Jacob (GIZ) explained that Data4Policy supports governments to create system-wide guidelines for effective data infrastructures, usages and communications. The initiative aims for a more data-driven and evidence based political atmosphere. This ensures that data does not stay in silos but is communicated and utilised across stakeholders.

Dr. Faisal Mahmud (Johns Hopkins University Center for Communication Programme) pointed out that effectively communicating climate data can turn the tide on mortality rates and inspire governments to strengthen health systems and change behaviour towards environmental preservation. The first step towards realising this is through building communication channels and coordination between policymakers, researchers, medical practitioners and communities.

Dr. Fahad Saeed (Climate Analytics) said that climate data models should be easy to understand and that this can be achieved through keeping audiences in mind when developing climate models. This collaborative process can also enable higher accuracy climate activity projections.

Richard Lace (BBC Media Action) shared his experience of designing campaigns for driving social change and emphasized the importance of keeping relevant audiences in mind when designing climate projects and campaigns. Evidence has shown that the level of user engagement in the designing phase of social campaigns greatly influences the utilization of the service the campaign is promoting.

Richard Lace ended by stating that “climate change information is relevant when it can help the people most impacted by climate change and their broader community. User engagement is key to the utility of climate services.”

Session 7: Opportunities for Collaborative Action

Mr. Gyanendra Karki (United Nations Environment Programme) articulated that while all the countries in the HKH region have their own national climate action plan, there needs to be a regional climate adaptation plan. A regional plan will allow for more collaborative action as it can help bridge the data gaps between countries.

Dr. Ishrat Islam (Bangladesh University of Engineering and Technology) said that although Bangladesh has data sharing policies, they are not properly enforced. This excludes relevant stakeholders from accessing data repositories. It is crucial for climate action to collect data from grassroots level and make it comprehensible and accessible for all.

Mr. Anuj Sharma (Earth Analytics) added that collaboration with universities and think tanks can further the process of making data free for all. As Bangladesh is a textile hub, there is also a need for data to sustainably manage supply chains.

“In the world of data, one and one is more than two - because by combining different data points, we can unearth more insights. We believe that data that are generated with funding that eventually comes from taxpayers should also be made public.” - said Mr. Sharma

Dr. Mandira Shrestha (International Centre for Integrated Mountain Development)'s statement was that capacity building is needed to interpret data projections, simulations, access, and how to use this data by sector. As data sensitivity is sometimes a reason for data not being shared, researchers can also consult maps and other available products on the region when going beyond borders for climate information.

Mr. Fazle Reza Shumon (Bangladesh Society of Geoinformatics) added that a central data hub can ensure free access to data and help to collectively counter the challenges of climate change. Within Bangladesh's boundaries, data sharing is already being pledged by local organizations, academic institutions, policymakers and researchers, which is a step towards regional sharing.

Mrs. Hasna Jasimuddin Moudud (IUCN) then recommended strengthening the linkage between mountain and ocean data to increase understanding of the interconnectivity of climate impact across both terrains. This linkage will also help to increase flood prediction accuracy so that vulnerable communities downstream will receive enough warning to prepare for floods.

Mr. Malik Fida A. Khan (CEGIS) concluded the session and made his own remarks that a regional climate action plan can act as a bridge connecting the countries in the region. Capacity development of regional climate professionals needs to be ongoing to keep pace with the leap of technological innovation.

Session 8: Closing Session

Mr. Quazi M. Ahmed (Future Leaders) began the session by presenting the question - what are some immediate ways we can collaborate so that a positive data sharing can take place immediately even if it is through small steps?

Dr. Farida Parveen (Department of Agricultural Extension, Ministry of Agriculture) stated that the HKH countries must transition to low carbon emission pathways. Climate data helps to assess the climate vulnerability and the rate of change.

Mr. Khandker Ahsan Hossain (Bangladesh Planning Commission) said that without access to climate data, it is almost impossible to have a comprehensive plan of action and implementation. Bangladesh Planning Commission is not only formulating plans and policies but also taking several initiatives to develop digital tools and platforms for decision making processes. The Disaster and Climate Risk Information Platform (DRIP) is one of these initiatives which aims to strengthen the institutional capacity of the Government of Bangladesh for assessing, understanding and communicating disaster and climate related risks. The goal is to integrate disaster risk information into development planning and budgeting as well as policies and programmes.

Dr. Farhina Ahmed (Ministry of Environment, Forest and Climate Change) added that research-based data proved the fact that climate change is a reality and quite a dangerous one. Data influences the mindsets and behaviour patterns of people. Ontology and Epistemology are important to understand the gravity of challenges and climate change impacts.

“Good doctors take history and background of patient’s disease, carry out diagnosis and go for a steady treatment. Data, information and research are like good doctors. They offer problem scenarios, why is it happening, what are the reasons? Then the people realise and get convinced on the treatment. Data also play the role of showing the scenario and help in decision making regarding course of actions.”

Dr. Ahmed explained that the people of this region are responsible for only a small amount of global emissions but are paying the biggest price for it as worst victims. Climate data can be utilized to portray the grave impacts of climate change in the region and can help to bargain with developed countries in negotiations regarding loss and damage compensation.

As concluding remarks, **Mr. M. Mahmudur Rahman (GIZ)** thanked the participants for taking the time to actively contribute to the conference and for furthering the discussion on opportunities and barriers of accessing climate data and climate risk information, ways of ensuring climate data availability and accessibility and to explore collaborations in the countries of the Hindu Kush Himalayan (HKH) region.



The NAP and NDC Support Programme improved capacities and processes to integrate climate risks and national adaptation goals into planning and decision-making in selected ministries of Bangladesh.

The ACCNLDP II project increases the use of climate risk information during planning and appraisal processes in the Bangladesh Planning Commission, Ministry of Planning, and the Government of the People's Republic of Bangladesh to strengthen the climate resilience of public investments.