



Climate Information Advisory Services (CIAS)

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EDITORIAL

Climate change is increasingly altering rainfall patterns, temperature regimes, and the frequency and intensity of extreme weather events, posing significant challenges to agricultural production and rural livelihoods. In Bangladesh, where agriculture remains highly dependent on weather conditions, farmers are adopting climate-resilient crops, innovative technologies, and locally appropriate farming practices. However, growing climatic uncertainty has highlighted the need for timely, reliable, and actionable climate information to support informed decision-making and reduce climate-related risks.

To address this need, the BRAC Climate Change Programme (CCP) has been implementing Climate Information and Advisory Services (CIAS) to make weather and climate information more accessible and useful for farming communities. Through partnerships and collaborations with the Massachusetts Institute of Technology (MIT), the Regional Integrated Multi-Hazard Early Warning System (RIMES), and the Bangladesh Meteorological Department (BMD), BRAC continues to advance climate information services and weather-informed decision-making.

Across the country, government agencies, research institutions, development organizations, and farming communities are working together to strengthen the generation, dissemination, and use of climate information. Valuable research and

practical experiences are also emerging on how such information can support agriculture, disaster preparedness, water management, and other climate-sensitive sectors.

In this context, we are pleased to present this quarterly newsletter as a platform for sharing knowledge, innovations, and lessons learned on climate information advisory services. We hope it will encourage exchange among researchers, practitioners, policymakers, extension agents, and other stakeholders while highlighting emerging developments and best practices.

We welcome your guidance, suggestions, and contributions to enrich the newsletter and strengthen collective learning.

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Readers are invited to send their feedback, views and opinions on the issues and concerns addressed in the newsletter. Please write to the Editor, CIAS Newsletter, at tapas.rc@brac.net

MESSAGE FROM THE DIRECTOR

Bangladesh is widely recognized as one of the most climate-vulnerable countries in the world and is experiencing increasing heatwaves, erratic rainfall, saline intrusion in water and soil, cyclones, floods, and waterlogging. These climate-related hazards are affecting crop production, livestock, fisheries, water resources, infrastructure, and rural livelihoods, particularly among vulnerable communities dependent on climate-sensitive sectors. In such a context, Climate Information Advisory Services (CIAS) have emerged as a critical tool for climate adaptation, risk reduction, and resilience-building initiatives.

The Climate Information Advisory Services initiative is designed to address the increasing climate change impacts faced by the country. BRAC's Climate Information Advisory Services transform short-term weather forecasts and long-term climate projections into actionable, location-specific advisories that support informed decision-making among farmers, extension workers, policymakers, researchers, and development practitioners. By enabling users to anticipate and respond to climate-related challenges, the initiative supports anticipatory adaptation planning and strengthens resilience.

This initiative is implemented in collaboration with the Massachusetts Institute of Technology (MIT), through the Jameel Observatory Climate Resilient Early Warning System Network (JO-CREWSnet) project. The project integrates advanced climate science, geospatial analysis, and decision-support systems to improve the accessibility and usability of climate information at both institutional and community levels. Through this initiative, scientific climate projections related to temperature variability, rainfall patterns, salinity intrusion, flooding, waterlogging, cyclone-induced hazards, and heat stress are translated into practical guidance tailored to local climatic conditions and sector-specific needs.

Strengthening CIAS requires improved forecast accuracy, localized dissemination systems, digital accessibility, institutional coordination, and inclusive last-mile communication mechanisms. Collaboration among government agencies, research institutions, meteorological organizations, development partners, and private-sector actors remains essential to ensure sustainable and scalable climate information systems. This publication reflects our continued commitment to advancing science-based climate resilience and promoting informed adaptation pathways for vulnerable communities in Bangladesh.

Md. Liakath Ali, PhD

Director

Climate Change Programme (CCP)

Urban Development Programme (UDP)

Disaster Risk Management Programme (DRMP)

MESSAGE FROM THE PROGRAMME HEAD

Climate change is increasingly affecting the lives and livelihoods of communities across Bangladesh. Extreme weather events such as heatwaves, cold waves, cyclones, floods, and erratic rainfall are becoming more frequent and intense, disrupting agricultural practices and increasing vulnerability. Climate projections from the Massachusetts Institute of Technology (MIT) indicate that climate conditions, particularly in southwestern Bangladesh, are likely to become more severe over the coming decades, underscoring the need for timely and effective adaptation measures.

In response to this challenge, BRAC launched the Climate Information Advisory Services (CIAS) initiative in 2023 to bridge the gap between climate science and community-level decision-making. CIAS translates weather forecasts, climate projections, and scientific information into practical advisories that support farmers and other stakeholders in making informed decisions. Following its successful piloting in coastal areas, the initiative is now expanding to other climate-vulnerable regions, including the Barind tract, haor areas, and flood-prone zones.

A key feature of CIAS is its integration of local knowledge with modern climate science and technology. To ensure institutional compliance and technical rigor, BRAC has established a Memorandum of Understanding with RIMES and is pursuing a Letter of Understanding with the Bangladesh Meteorological Department.

Inclusivity remains central to the CIAS approach. Climate information is disseminated through basic mobile phones, adaptation clinics of BRAC, trained farmers, and community networks to reach vulnerable populations. While challenges such as limited mobile phone access among women farmers, frequent SIM changes, and seasonal migration affect information dissemination, BRAC field teams continuously engage with communities, local government institutions, and agricultural stakeholders to strengthen awareness and access.

This publication highlights the growing role of CIAS in supporting diverse stakeholders and demonstrates how science-based climate services can strengthen resilience, improve decision-making, and help communities adapt to an increasingly uncertain climate future.

Abu Sadat Moniruzzaman Khan
Programme Head
Climate Change Programme (CCP)



“This year, I cultivated watermelon. My field was full of mature watermelons when the weekly bulletin warned of an incoming hailstorm. I didn’t wait for the usual wholesalers to arrive. I immediately harvested and sold my produce. Had I not received this timely alert, I would have faced a devastating loss. I made a great profit instead. I am grateful to BRAC for their support.”

Tapashi Rani Mondal
Farmer, BRAC Climate Change Programme

HIGHLIGHTS OF THE LAST QUARTER

Zereen Saba,
Specialist, Meteorology, CCP, BRAC

From January to April 2026, the BRAC Climate Change Programme strengthened Climate Information and Advisory Services (CIAS) across Bangladesh’s climate-vulnerable coastal belt, Barind region, Haor basin, and Chattogram Hill Tracts, helping farming communities prepare for increasingly erratic weather conditions. During this period, communities experienced multiple climate hazards, including cold waves, dense fog, thunderstorms, hailstorms, irregular rainfall, and early heatwave conditions. In response, BRAC expanded its forecast-based advisory services through weekly and monthly weather forecasts integrated with agrometeorological advisories for field crops, homestead gardening, livestock, and poultry management.

The CIAS activities were implemented through BRAC’s adaptation clinics. Weekly agrometeorological advisories reached approximately 15,000 farmers through Voice SMS and also a huge number of farmers and relevant stakeholders are receiving the meteorological information and advisory through text messaging, community meetings, and direct engagement by field facilitators. The advisories provided localized recommendations on crop sowing, irrigation scheduling, pest and disease management, livestock sheltering, poultry care, and water management based on forecasted weather conditions. During the cold wave and fog events in January, farmers received guidance on protecting winter vegetables, seedbeds, poultry, and livestock from low temperatures and moisture-related diseases. There are

several successful examples showing how the farmers have benefited from this CIAS.

As temperatures rose in March and April, BRAC intensified heatwave preparedness communications. Farmers were advised to adjust irrigation timing, increase mulching practices, and ensure shade and adequate drinking water for livestock and poultry. In the CIAS intervention districts, where irregular rainfall, salinity intrusion, fog, and early heat stress affected Rabi and Kharif-I crops, farmers received weekly guidance on paddy, sunflower, watermelon, maize, other field crops, and homestead vegetables. Advisories emphasized water conservation, salinity-tolerant crop varieties, mulching, heat stress management, protecting seedlings from cold injury, and ensuring livestock safety during temperature extremes. Livestock and poultry farmers were also advised on adequate ventilation, shade, clean drinking water, and disease prevention during cold waves, heatwaves, and humid conditions.

In Ajmiriganj Upazila of Habiganj, and Chhatak and Derai upazilas of Sunamganj under the Haor region, irregular rainfall, flash floods, and thunderstorms during the Boro season prompted timely warnings to reduce crop losses during harvesting and drying periods. In coastal districts including Bagerhat, Satkhira, Noakhali, Barguna, Patuakhali, Chattogram, and Cox's Bazar, communities received advisories supporting safer livestock, field crop, and homestead farming practices. In the Barind region, covering several upazilas of Chapainawabganj, Naogaon, and Rajshahi, agrometeorological advisories emphasized irrigation efficiency and crop protection against prolonged heatwaves, cold stress, and fog-induced fungal diseases.

Special attention was also given to thunderstorms and lightning awareness during the pre-monsoon season. BRAC

organized community awareness sessions in vulnerable areas on lightning safety measures, including avoiding open fields during thunderstorms, safe shelter practices, livestock protection, and emergency preparedness. Awareness materials, local demonstrations, and community discussions improved understanding of the increasing risks associated with extreme weather events.

The CIAS interventions also promoted inclusive access to climate and weather information. Women farmers, marginalized households, and remote communities in the Haor and Chattogram Hill Tracts regions were increasingly connected to forecast-based advisories through community-based dissemination systems. Livestock and poultry advisories were piloted monthly in selected adaptation clinic areas of Satkhira and Jashore, providing tailored recommendations to reduce weather-related disease outbreaks and production losses.

Throughout the reporting period, Climate Information Advisory Services demonstrated the growing importance of localized climate forecasting and agrometeorological advisory systems in supporting adaptive agricultural practices and strengthening resilience among vulnerable populations. By combining scientific weather forecasting with practical agricultural guidance and community awareness initiatives, BRAC continued to promote climate-informed decision-making that enhanced productivity, reduced disaster risks, protected livelihoods, and improved preparedness against intensifying climate extremes across Bangladesh.

EL NIÑO 2026: FACTS, CONCERNS, AND PREPAREDNESS

Mohan K. Das, PhD,

Executive Director, Hydro-Climate and Ocean Centre,
Joint Secretary, South Asian Meteorological Association (SAMA)

El Niño is a large-scale climate phenomenon. It is part of a climate cycle known as the El Niño–Southern Oscillation (ENSO). It usually occurs every few years and has a significant influence on global temperatures, rainfall patterns, storms, and marine ecosystems.

Scientists around the world continue to monitor conditions in the tropical Pacific Ocean for signs of future changes in the ENSO. Several climate indicators suggest that El Niño conditions are likely to emerge, though their onset and intensity may vary. If a strong El Niño occurs, it could influence weather patterns in many regions and raise concerns about extreme weather, food security, public health, and economic stability. In a warming climate, scientists are also examining how higher global temperatures may amplify some of the impacts associated with strong El Niño events.

According to the latest update from the World Meteorological Organization (WMO), there is an 80% probability of El Niño conditions during June to August 2026. The likelihood of these conditions persisting until at least November 2026 is around 90%. However, uncertainty remains regarding the timing and ultimate strength of the event.

El Niño occurs when trade winds in the tropical Pacific Ocean weaken. Under normal conditions, these winds push warm surface water toward Asia and Australia while allowing colder, nutrient-rich water to rise near the coast of South America. When the winds weaken, warm water spreads eastward across the Pacific, causing sea surface temperatures to rise and altering weather patterns around the world. Scientists closely monitor changes in

the Pacific Ocean that may affect the development of El Niño. One of the features they watch is a Kelvin wave, a large area of warm water that moves beneath the ocean surface. These warm water movements can sometimes contribute to the development of El Niño conditions. Although such developments attract significant scientific attention, forecasting the timing and intensity of El Niño remains challenging, particularly beyond seasonal timescales. The atmosphere and ocean interact in complex ways, and not every warming signal develops into a strong event.

Historical records show that strong El Niño events have had major global impacts. The events of 1997–1998 and 2015–2016 were associated with record temperatures, droughts, floods, and significant economic losses in many parts of the world.

An El Niño has the potential to intensify extreme weather. Changes in ocean temperatures can alter rainfall patterns, increasing the risk of drought in some regions while causing excessive rainfall and flooding in others. Heatwaves may become more frequent and severe, affecting human health, agriculture, and water resources.

El Niño can also influence tropical cyclone activity in different ocean basins. In the Atlantic Ocean, it is often associated with fewer hurricanes because stronger wind shear can hinder storm development. Tropical cyclone activity in the northern Bay of Bengal has also remained below average during the past two years.

A strong El Niño could also have consequences that extend beyond weather and climate. Reduced crop yields, pressure

on fisheries, and disruptions to supply chains can contribute to rising food prices and economic challenges in affected regions. Periods of extreme heat and flooding may also increase health risks, placing additional pressure on communities and public services.

Climate change adds another layer of concern. Global temperatures are already significantly higher than they were before industrialization, creating a warmer baseline for extreme weather events. Scientists warn that the combination of a strong El Niño and ongoing global warming could contribute to unusually high global temperatures and intensify some climate-related impacts.

South Asia is particularly vulnerable because millions of people depend on seasonal monsoon rainfall for agriculture and water supplies. Countries such as Bangladesh, India, Nepal, and Pakistan could experience disruptions to rainfall patterns, increased heat stress, and pressure on food production systems. Coastal and fishing communities may also face challenges as warmer ocean temperatures affect marine ecosystems and fish populations.

In Bangladesh, even relatively small shifts in rainfall or temperature can have significant consequences. Changes in monsoon patterns may affect rice production, while prolonged heat can reduce labor productivity and increase health risks. Coastal communities could face additional challenges from salinity intrusion, pressure on fisheries, and weather-related disruptions that affect livelihoods and local economies.

The impacts of a strong El Niño extend beyond environmental concerns. Reduced agricultural production, rising food prices, health risks, and disruptions to livelihoods can affect communities and economies alike. These consequences highlight why scientists, policymakers, and disaster

management agencies are monitoring developments closely.

El Niño cannot be prevented. Its impacts, however, can be reduced through effective preparation. Early warning systems and seasonal climate forecasts help governments and communities prepare for potential risks. Farmers can adjust planting schedules, water managers can improve resource planning, and emergency services can strengthen disaster preparedness measures.

Preparedness is particularly important in South Asia, where weather conditions directly affect agriculture, water availability, and daily life. A weaker monsoon can reduce crop yields and increase irrigation demand. Prolonged heatwaves can place additional pressure on vulnerable households. Excessive rainfall can damage infrastructure, disrupt transportation, and affect local economies. Farmers can use seasonal forecasts to guide planting decisions. Water management authorities can improve reservoir management. Health services can prepare for periods of extreme heat. Stronger flood protection systems can help reduce losses. Emergency shelters and timely weather information can also improve community resilience.

The growing concern over the potential impacts of a strong El Niño reflects a broader challenge: societies are facing increasing exposure to weather-related risks in a warming climate. Investments in reliable infrastructure, sustainable water management, ecosystem conservation, and disaster risk reduction can provide lasting benefits regardless of whether a major El Niño develops.

The outlook for 2026 emphasizes the value of early preparation. Early action and effective planning can strengthen resilience and protect communities from extreme weather.

STORY FROM THE FIELD

CIAS SAVED BORO SEEDBEDS FROM COLD SPELL

Umme Habiba Ekra

Officer, Climate Information Advisory Services, CCP, BRAC

Akbar Ali and Abdur Rahim, next-door neighbors from Shinghertali village, who are Climate Information and Advisory Services (CIAS) participants from Shyamnagar upazila of Satkhira district. They received advisory on cold wave and fog forecast in the weekly agrometeorological advisory under CIAS initiative.

According to weather forecast, CIAS team found that there was a possibility of cold wave with heavy fog that would persist for few days over Shyamnagar upazila. This information was delivered through the weekly weather and agricultural advisory as a voice message on 05 January 2026. The message was generated based on forecasted weather conditions (Temperature, fog, humidity, sun shine hours, and other specific incidents like heatwaves, cold waves, heavy rainfall, fog and others) and its probable impact on the standing crop of those specific locations.

As expected, Shyamnagar upazila experienced a severe cold wave and dense fog that created high risk conditions for Boro rice seedbeds. The low temperature and heavy fog increased the chances of seed rot, weak seedlings, and disease attacks threatening early crop establishment. Akbar Ali regularly received CIAS messages and followed the advisories by covering seedbeds with transparent polythene during cold hours, removing stagnant cold water and applying fresh irrigation, and gently shaking seedlings to remove dew and reduce fungal risks. Temperature further plummeted and thick fog prevailed. By the end of the week, his seedlings had grown well.

On the other hand, one-third of the seedlings in the adjacent field were ruined in that fog incident. Abdur Rahim did not pay attention and was negligent. His ignorance to the CIAS advisories on fog led to approximately 30% seedbed loss.

BRAC CCP field staff, while conducting a regular field visit on 13 January 2026, was informed and shown evidence of the clear differences between users and non-users of CIAS information by the farmers. Farmers who followed the advisories maintained healthy, green, and uniform seedlings with very little damage. In contrast, farmers who did not apply the guidance experienced significant losses, including seed rotting, weak growth, and yellowing seedlings. This story is not about just two farmers. Some farmers chose to put their trust in CIAS from the beginning, while others remained skeptical. This story became a lesson, a foundation of trust to BRAC CIAS. This experience showed them even in adverse weather conditions, major losses can be avoided by following timely scientific recommendations issued by CIAS.



Photo: Akbar Ali's seedlings has grown green, uniform height, disease-free, and perfectly ready for transplantation, with proper care following the advisory.

USE OF THE DECISION SUPPORT TOOL (DST)

Tasnia Bahar Chowdhury

Specialist, Economics, CCP, BRAC

The Decision Support Tool¹ provides geospatial visualization of collected physical science and socio-economic data, as well as modeling projections from Jameel Observatory CREWSnet project principal investigators. This data is curated and stored in the data hub and used to create thematic maps tailored to provide specific information to inform decision-making by a variety of stakeholders, with a focus on climate-resilient shelter, water security, agriculture resilience, and policy support.

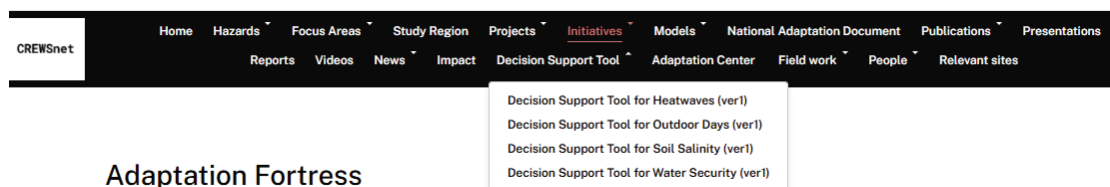


Figure 1: Decision support tool content

The shelter and infrastructure-related DSTs, including those aligned with the Bangladesh National Building Code (BNBC) and the Adaptation Fortress (AF) initiative, provide critical evidence for planning resilient infrastructure under future climate scenarios. Institutions such as the Bangladesh House Building Research Institute (HBRI), Local Government Engineering Department (LGED), and adaptation planners can use the DST information to assess whether current shelter designs remain effective under projected heat stress and extreme climate conditions, and to identify opportunities for upgrading cyclone shelters into multi-hazard support shelters and climate-resilient community facilities.

Health facilities, schools, and the community can also benefit from DST information. Heatwave and water stress projections support planning for cooling facilities, medical staff deployment, water supply management, and preparedness during periods of heightened climate risks. Community leaders and local media can use simplified DST outputs to communicate climate risks in plain language, strengthening public awareness and local preparedness. ([DST for Heatwave](#))

For agricultural and natural resource stakeholders, including the Department of Agricultural Extension (DAE), research institutes, the Department of Livestock Services (DLS), the Department of Fisheries (DoF), and farmers, DSTs offer valuable insights into climate-induced risks affecting crops, livestock, poultry, and water availability. Tools focusing on heatwaves, rainfall variability, salinity, and groundwater projections help inform crop calendars, agricultural productivity, irrigation planning, and adaptive farming strategies. Research and academic institutions can further use these datasets to conduct scientific analysis and strengthen evidence-based climate adaptation research. Local governments can also use heat stress and shelter-related tools to improve emergency preparedness and service delivery for vulnerable populations. ([DST for soil salinity](#))

¹ <https://jo-crewsnet.mit.edu/>

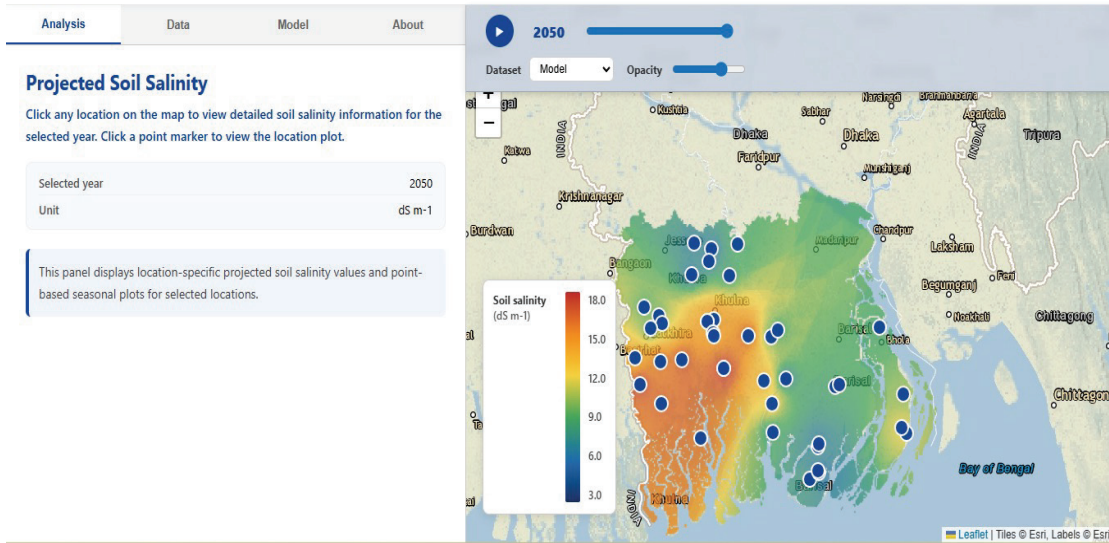


Figure 2: Decision support tool for soil salinity

At the local governance level, union and upazila authorities can use DST outputs to identify climate hotspots and prioritize investments in climate adaptation infrastructure. For example, water-related DSTs support the identification of priority sites for Reverse Osmosis (RO) plants and Rainwater Harvesting (RWH) systems in water-scarce regions, while waterlogging projections can guide drainage improvement and local infrastructure planning. ([DST for water security](#))

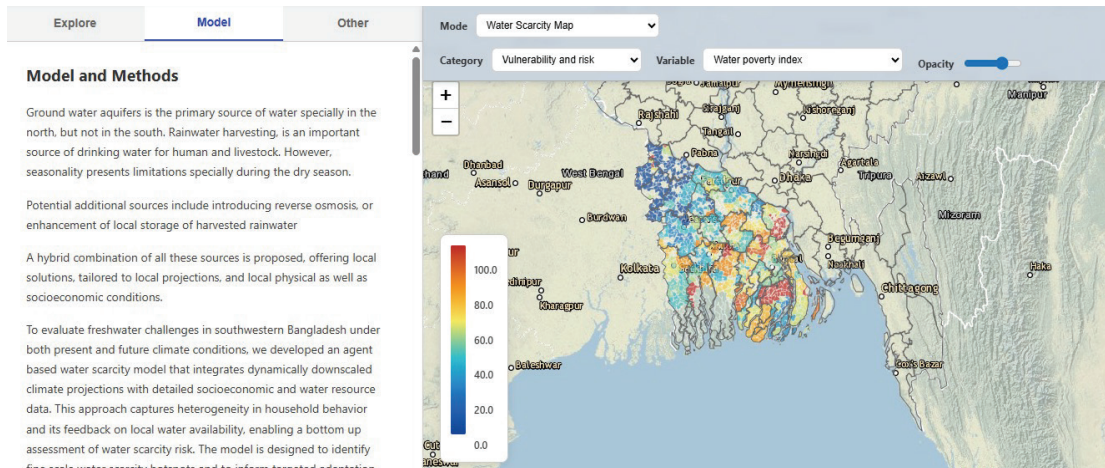


Figure 3: Decision support tool for water security

National ministries and government agencies, including ministries responsible for health, disaster management, water resources, housing, local government, and education, can use DSTs to develop and revise policies (such as the National Adaptation Plan, the Nationally Determined Contribution), technical standards, and long-term adaptation strategies. Climate projections on heatwaves, water stress, and shelter resilience can help ministries allocate

budgets more effectively, scale up pilot interventions, and integrate climate resilience into national planning frameworks, including building standards and disaster risk management systems.

Overall, the DST creates an opportunity to bridge scientific climate information with real-world decision-making. By equipping stakeholders, from farmers and local governments to national policymakers and researchers, with tailored climate risk information, DST aims to strengthen climate resilience, improve adaptive planning, and enable proactive responses to future climate extremes.

BRAC STRENGTHENS CIAS TO PROTECT FARMERS

Md. Obaidullah Al Kabir

Specialist, Social Inclusion & Community Capacity Development, CCP BRAC

WORKSHOP ON CLIMATE INFORMATION AND ADVISORY SERVICES CIAS FOR LIVESTOCK



Photo: Workshop on Climate Information Advisory for Livestock at BRAC Centre on 19 January 2026

On 19 January 2026, BRAC held a workshop at BRAC Centre in Dhaka focused on protecting livestock through Climate Information and Advisory Services (CIAS). Livestock is a vital asset for rural families, especially ultra-poor households. But heat stress, cold waves, and disease outbreaks are putting animals at risk.

Md. Liakath Ali, PhD, Director of BRAC's Climate Change Programme (CCP), opened the workshop. He shared that BRAC is working with MIT to turn global climate projections into local information that

farmers can actually use.

Abu Sadat Moniruzzaman Khan, Programme Head, CCP, explained that early warnings can help farmers take action, like improving animal shelters, managing feed better, and protecting animal health.

Zereen Saba, Specialist, Meteorology, presented BRAC's current CIAS state. She showed how weather data on temperature, humidity, and sunshine is turned into farmer-friendly advisories. These are shared through voice messages and Adaptation Clinics.

During an open discussion facilitated by Tapas Ranjan Chakraborty, Senior Programme Manager, CCP, participants agreed that CIAS must be linked with existing programs like the Ultra-Poor Graduation Initiative and Aarong Dairy. They also stressed that information must be delivered in very simple Bengali.

MEETING ON CLIMATE INFORMATION ADVISORY SERVICES



Photo: Workshop on Climate Information Advisory for Livestock at BRAC Center on 19 January 2026

Just one week later, on 26 January 2026, BRAC hosted a larger meeting at BRAC Centre. This full-day event brought together government agencies, NGOs, research institutions, and private companies to discuss Climate Information Advisory Services (CIAS) for agriculture and livelihoods.

Dr. Md. Liakath Ali, Director, Climate Change Programme, BRAC welcomed everyone, stressing the urgency of understanding future climate scenarios. Abu Sadat Moniruzzaman Khan, Programme Head, Climate Change Programme, BRAC explained that the goal was to bridge the gap between weather forecasting and what farmers actually need on the ground.

Key presentations included:

Md. Belayet Hossan, Associate Director, BRAC Microfinance noted that over 1.08 million farmers are now covered by BRAC microinsurance linked to climate information. While insurance helps farmers recover after a loss, good climate information can help prevent losses from happening at all.

Dr. Md. Golam Rabbani, Associate Director, Climate Hub, BRAC and BRAC International,

explained that seasonal forecasting is still only at a “fair” reliability level, and much more investment is needed.

Dr. Muhammad Abul Kalam Mallik, Meteorologist, Bangladesh Meteorological Department shared that short-term forecast (up to 7 days) are quite accurate, but longer forecasts remain challenging. He stressed the importance of combining traditional local knowledge with scientific forecasting.

Several organizations presented their work. The Regional Integrated Multi-Hazard Early Warning System (RIMES) shared their climate dashboard approach. Oxfam Bangladesh presented their community platform reaching 5,000 farmers with real-time advice. Planten Agro showed their satellite-based app called Rapagra, which covers 18 different crops.

By the end of the meeting facilitated by Tapas Ranjan Chakraborty, participants agreed on several key actions:

improve seasonal forecasting, create a centralized climate information platform, reach farmers through voice calls and community radio, and expand services to fisheries and livestock.

Online Session on Thunderstorm Awareness

On 28 April 2026, BRAC CCP organized an online awareness session for field staff members of the JO-CREWSnet project. The focus was on thunderstorms, sudden, violent storms that can destroy crops, kill livestock, and put lives at risk. The session helped staff understand how to prepare for thunderstorms and share early warnings with farming communities.

Moving Forward

Together, these three events have built a

strong foundation on climate information and projection. BRAC is now working to pilot livestock-specific climate advisory services, improve last-mile delivery through simple voice messages, and strengthen

coordination among all stakeholders. The goal is clear: give farmers the information they need, when they need it, in a form they can use to save their crops, protect their animals, and secure their livelihoods.

AGROMETEOROLOGICAL OUTLOOK AND FARMER READINESS FOR KHARIF-II CROPS

Md. Bashirul Islam

Sector specialist- Agriculture, CCP, BRAC

Bangladesh is one of the world's most climate-sensitive agricultural countries. Crop production during the Kharif-II season mainly depends on naturally occurring rainfall from the Southwest monsoon rather than on artificial irrigation. This is why, crops of Kharif-II season is highly sensitive to weather and climate conditions. Although the onset of the 2026 monsoon is expected to be near normal, the prevailing El Niño conditions may lead to uneven rainfall distribution across different regions, causing temporal and spatial variability in precipitation throughout the season.

During monsoon in Bangladesh, sometimes intense rainfall can cause serious damage to the seedbed and young seedlings of Transplanted Aman (T. Aman) rice. So, proper site selection is very important for T. Aman seedbeds. Seedbeds should be prepared on slightly elevated land where excess water can drain out easily. Ensure adequate drainage and effective water management systems to prevent waterlogging and reduce the risk of seedbed loss during heavy rainfall events.

Farmers may reduce climatic event related crop damage during the Kharif-II season by cultivating flood-tolerant and short-duration rice varieties. Early-maturing varieties may help farmers complete harvesting before the peak period of cyclone and flash floods related climatic events. In Bangladesh,

the final growth and harvesting stage of T. Aman rice often overlaps with the cyclone season, especially during October and November. Therefore, timely cultivation and transplanting are very important to avoid late-season disasters. In flood-prone areas, farmers should use flood-tolerant rice varieties that can survive temporary waterlogging conditions.

In both homestead agriculture and field crops, farmers can adopt the raised bed method and proper drainage system to reduce loss and damage from excessive rainwater and waterlogging during the heavy rainfall events. Proper drainage management helps prevent root rot, nutrient loss, and disease infestation in vegetables and crops. Farmers can also use mulching materials such as rice husk, dry leaves, straw, and other crop residues. Mulching helps conserve soil moisture, improve seed germination, and reduce soil erosion caused by heavy rainfall, and finally it converts into nutrients. It also minimizes nutrient losses and prevents the washing away of fertile topsoil. For the commercial cultivation of high-value crops like watermelon, chili, brinjal, etc., farmers can also use mulching paper (plastic mulch) to avoid weeds and properly utilize nutrients.

In waterlogged areas, farmers can practice floating gardening using locally available water hyacinth and other aquatic

weeds. Farmers can also adopt climate-adaptive agricultural practices such as Sorjan method, dike farming, bag or sack gardening, hanging gardening, etc. During this season, farmers should apply fertilizers properly and avoid excessive use of nitrogen fertilizer. Excess nitrogen promotes excessive vegetative growth, which makes crops more vulnerable to insect pests, fungal diseases and lodging. To reduce pest and disease incidence, farmers should practice clean cultivation and maintain proper crop density by following recommended row-to-row and plant-to-plant spacing according to the crop variety. Farmers should also adopt

Integrated Pest Management (IPM) practices for eco-friendly pest control. IPM methods may include the use of sex pheromone traps, yellow sticky traps, light traps, biological control agents and other nature-based solutions to minimize pest infestation while reducing dependence on chemical pesticides. Trichoderma can be used with compost in soil to minimize the fungal attack and also other bio-pesticide can be used in vegetative part considering the food safety when it is only required.

BENEFITS OF WEEKLY VOICE MESSAGE: THE EXPERIENCE OF MR. OHIDUZZAMAN

Anisa Islam Misty

Sector Specialist - Agriculture, CCP, BRAC

Ohiduzzaman, a 23-year-old farmer from Satbaria Union, Keshabpur Upazila, Jashore. He has been farming rice, vegetables, and seasonal crops with his father for a long time. In the past, he frequently faced agricultural production losses due to weather uncertainty. His crops were partially or fully destroyed due to sudden rain, hailstorm, excessive temperature or thick fog, and often made it impossible the timely application of fertilizers or pesticides.

However, he has been working as young farmer for JO-CREWSnet project at BRAC Keshabpur Adaptation Clinic for last three years. From the beginning of BRAC Climate Information Advisory Services (CIAS), he is receiving weekly agrometeorological advisory voice SMS, through mobile phone. These services have brought a significant positive impact in Ohiduzzaman's farming practices. He receives regular weather information about the possibilities of rainfall, temperature and other weather parameters



along with agricultural advisories every week, and plan his field activities ahead of time.

“Before I used to farm based on my guess, now I make decisions based on information.” – Ohiduzzaman.

If there are possibilities of rainfall, he stops irrigation, and postpones the application of pesticides and fertilizers. When he gets a dry weather forecast, he irrigates timely

and properly to save his crops from water scarcity. He harvests earlier during climatic extremes like cyclone, flood, hailstorms etc. according to weather forecasts along with agriculture advisories.

Due to these advisories, Ohiduzzaman's production costs have dropped and yields have increased. As unnecessary use of pesticides decreased, soil and crop health remain in better condition. At the same time,

risk of crop loss and damage has reduced and his income has stabilized.

In the end, Mr. Ohiduzzaman believes, this weekly information is not only a forecast, but for a farmer it is a strong decision-making tool. According to him, CIAS plays a vital role in making agriculture more profitable, safer and more sustainable.

TIMELY CIAS SAVES HARVESTS FROM FLASH FLOODS IN AZMIRIGANJ OF HABIGANJ

Zereen Saba

Specialist, Meteorology, CCP, BRAC

In 2026, BRAC's Integrated Development Programme (IDP) has introduced trial cultivation of BRAC Dhan-2, an early-maturing aromatic rice variety developed by BRAC Seed and Agro, in Azmiriganj of Habiganj and Panchbibi of Joypurhat. The variety was selected for its ability to mature earlier than traditional rice varieties, making it particularly suitable for vulnerable areas where climate-related hazards threaten agricultural production.

Although its average yield is around 20 kg per decimal compared to 25-27 kg per decimal for traditional varieties, its aromatic quality and thin grain characteristics of BRAC Dhan-2 allow farmers to secure a higher market price. The pilot involved 40 farmers in Azmiriganj on 20 acres of land and 65 farmers on 25 acres (60 out of 65 women fully led the agricultural activities in Panchbibi). They are of Pahan, Mahata, Sing, indigenous community.

The season brought unexpected challenges. In Azmiriganj, Neck blast pest infestations attacked BRAC Dhan-2 during the flowering stage. Due to its aromatic characteristics, the crop became highly vulnerable, resulting



in an average of 45% damage. Despite these losses, farmers remained hopeful about harvesting the remaining crop.

As the harvest season approached at the end of April 2026, farmers identified another critical need which was reliable weather information to support harvesting and post-harvest activities. In response, BRAC Climate Change Programme's Climate Information Advisory Services (CIAS) began providing regular weather forecasts and agrometeorological advisories to farmers in both project locations.

The advisories included forecasts of heavy

rainfall and expected sunshine hours, enabling farmers to plan harvesting and paddy drying activities more effectively. Farmers used the information to schedule field operations and reduce the risk of weather-related losses.

At the end of April, CIAS issued a proactive flash flood forecast for Azmiriganj, Habiganj, along with practical agricultural advisories. Farmers were encouraged to harvest mature paddy quickly and their harvest was dried and sold to BSAE before floodwaters arrived.

The farmers who received the advisory and acted upon it were able to save their crops because they harvested them before the flash flood hit. They were also able to dry and sell the harvested product in the market on time. On the other hand, the farmers who had no access to the information, i.e., other local farmers mostly lost the crops due to taking no proactive action against the flash flood. It was assessed that due to the flash flood almost 45% of the field crop of that area didn't survive.

However, nearly 50% of the paddy that remained unharvested in the fields was severely damaged or lost due to the flooding. Farmers who received and followed the CIAS advisories successfully protected their harvests from the flood. Their experience demonstrates how timely climate information can support informed decision-making, reduce losses, and strengthen resilience in climate-vulnerable farming communities.

The Azmiriganj experience highlights the power of actionable climate information services. While BRAC Dhan-2 offered farmers an opportunity to harvest earlier and access premium markets, CIAS provided the critical weather intelligence needed to make timely decisions. Together, these interventions strengthened farmers' resilience and demonstrated how climate-informed agriculture can help vulnerable communities adapt to an increasingly uncertain future.

UPCOMING EVENTS

Climate Information Advisory Services and Community: A round table discussion is planned with the Department of Meteorology, University of Dhaka, to explore the scope of popularizing the use of climate projection in the decision-making process by various stakeholders. Together, we will talk about how climate information can help farmers and communities prepare for climate change.

Feedback on Poultry and Livestock Support: For the past few months, we have been providing advisory services to the community in Satkhira district on poultry and livestock farming. In this session, farmers will share their experiences and learnings.