



BRAC Institute of Governance and Development (BIGD), Brac University, is a Bangladesh-based social science research and academic institute, dedicated to generating and sharing knowledge through education, research, and public engagement in equitable partnerships with national and global actors.



In BIGD's **Environment and Climate Change** cluster, we examine the impact of environment and climate change on livelihoods and how human and institutional responses to these changes affect different population segments.

We use a ground-up approach that considers the socioeconomic and environmental realities of the affected population. Themes include livelihood adaptation, climate migration and urbanization, and green transition.



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Supporting BRAC in Defining the Climate Change Agenda

BRAC recognizes the centrality of protecting vulnerable people from the negative impacts of climate change in pursuing its mission—creating shared opportunities to realize human potential. BIGD is actively engaging with BRAC in identifying areas of work on climate change and points of collaboration with research and learning with Brac University.

BRAC kickstarted this effort in 2023 with two stakeholder workshops, one in January and the other in June, setting up a Climate Hub—a cross-functional BRAC unit to support BRAC and BRAC International to define and establish their climate change agenda. The organization also identified four pillars of work, namely critical services, livelihoods, risk mitigation and planning, and preparing cities for climate migration.

Guided by the BRAC Executive Office, BIGD researchers and BRAC programme personnel deliberated throughout June–August to identify priorities and strategies for deepening BRAC's climate action in Bangladesh's diversely impacted geographies. In August, BRAC, in collaboration with BIGD and the BRAC James P Grant School of

Public Health (JPGSPH), organized its first annual climate workshop, where it was decided that BRAC will pilot an integrated climate service delivery approach, develop a strong research agenda, and work with other stakeholders so that “no chains are broken.”

BIGD worked with BRAC to conceptualize the integrated initiative to effectively cater to the needs of the impacted communities within two vulnerable zones facing two distinct types of climate risks—drought and salinity.

At the pilot stage, BIGD will map out the multidimensional vulnerabilities of different target groups—climatic, environmental, and socioeconomic—their needs, gaps in services, etc., using a formative research method. We will also perform a process documentation on innovation and implementation as part of an iterative learning exercise, feeding into the next-level research design.

During scale-up, our research will focus on the uptake and diffusion of climate-adaptive and climate-smart technologies and the distributional impacts of different risks and programmatic interventions.

Highlighted Studies

Climate Resilience and Graduation: Evidence From Bangladesh

This collaborative study, in partnership with the London School of Economics and Political Science (LSE) researchers and BRAC, investigates the interplay between climate adaptation and anti-poverty interventions within the climate-vulnerable landscape of Bangladesh. Using a randomized controlled trial (RCT), the study assesses the economic viability of “climate-adaptive” livelihood solutions that are feasible for the ultra-poor and tests different means of promoting them.

Improved Early Action Through Precise Targeting, Timely Cash, and Early Warning to Mitigate the Impacts of Climate Shocks

Against the backdrop of the escalating threat of increased flooding due to climate change in Bangladesh, the study focuses on a targeted, risk-informed early action pilot to evaluate the efficiency of early warning systems, optimal timing of cash transfers to cover the flood-induced economic losses, and data-driven targeting strategies. The study employs an RCT involving 10,400 households, of which some will receive unconditional cash transfers ahead of a flood and others after. Leveraging advancements in data science and mobile technology, the study introduces innovative approaches in its design such as vulnerability-based targeting utilizing real-time flood data. By analyzing the impact of early response on welfare, resilience, and targeting accuracy, the research aims to enhance disaster preparedness and response strategies. This is a collaborative study, conducted in partnership with the University of Oxford and GiveDirectly.

Environmental and Economic Impacts of Agrivoltaics in Bangladesh

This study examines the direct and upstream impacts of agrivoltaics—the practice of cultivating crops under solar panels—on economic and environmental factors including employment, land use, water resources, greenhouse gas emissions, and co-pollutants. Additionally, the study employs an input-output model to compare this technology with other mainstream power sources. A novel feature of the analysis is its consideration of the land-impacted rather than just land-used aspect of different power sources. The study aims to offer crucial insights for developing countries, especially those like Bangladesh where usable land is severely limited, about the feasibility of adopting agrivoltaics for green transition.



Lead Researchers



Dr Munshi Sulaiman

Dr Sulaiman serves as the Director of Research at BIGD and advises the institute's Environment and Climate Change agenda. His previous affiliations include Advisor at The Agency Fund and Research and Evaluation Advisor at Save the Children International. He started his research career in 2004 at BRAC's Research and Evaluation Division (RED). His last appointment was as the Director for Research, Monitoring and Learning at Save the Children in Somalia. He also led BRAC International's Independent Evaluation and Research Cell (IERC).

Dr Sulaiman holds a PhD in Economics from the London School of Economics and Political Science (LSE) and had been a Post-Doctoral Fellow at Yale University. He has published extensively, including contributions to top international economics journals on topics related to poverty, financial inclusion, and labour markets.



Dr Rohini Kamal

Dr Kamal, a Research Fellow and Assistant Professor at BIGD, is leading the institute's Environment and Climate Change research. She uses macroeconomic models to estimate employment and environmental interdependencies between different economic sectors. She also uses field experiments, including RCTs, to assess localized and household-level impacts of programmatic, policy, and information interventions in the field of climate change.

In her prior role as a research fellow at the Global Development Policy Center at Boston University, she investigated the environmental and distributional impacts of energy financing made by Chinese and other key regional/global banks and development institutions. Dr Kamal completed her PhD in Economics from the University of Massachusetts, Amherst.



BIGD is a social science research and post-graduate teaching institute of Brac University

বিআইজিডি ব্র্যাক বিশ্ববিদ্যালয়ের একটি সামাজিক গবেষণা এবং স্নাতকোত্তর শিক্ষাদানকারী প্রতিষ্ঠান।

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