Program Profile		
Program	Program name	Assessing Environmental and Socioeconomic Concerns in the Expansion of the Dhaka-Chittagong Highway: Focus on The Dhaka Corridor.
	Category	A8 & B3

Summary of Program	
Program Name	Assessing Environmental and Socioeconomic Concerns in the Expansion of the Dhaka-Chittagong Highway: Focus on The Dhaka Corridor.
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Abstract of Program	The rapid growth of infrastructure in Bangladesh, particularly along strategic corridors such as the Dhaka–Chittagong Highway, has brought significant environmental and social challenges. Despite the legal requirement for Environmental Impact Assessments (EIA), the effectiveness of current EIA practices remains limited, particularly in addressing climate change risks and aligning with the Environmental Conservation Rules (ECR) 2023. This study focuses on Zone 1 of the Dhaka–Chattogram Highway—covering the 10 km stretch between Jatrabari and Kanchpur Bridge—and aims to critically evaluate the existing EIA framework in terms of climate responsiveness, regulatory coherence, and implementation efficacy. The research identifies notable gaps in the uniform application of climate impact assessments and a lack of systematic alignment between EIA outcomes and the provisions of the ECR. To address these challenges, the study proposes a standardized framework for incorporating climate change considerations into the EIA process. This includes the development of climate-sensitive environmental indicators, integration of ecosystem-based adaptation measures, and alignment of project evaluations with international best practices. The research is closely aligned with several Sustainable Development Goals (SDGs), particularly: o SDG 9 (Industry, Innovation and Infrastructure) by promoting climate-resilient infrastructure planning; o SDG 13 (Climate Action) through proactive climate risk assessment and mitigation; o SDG 3 (Good Health and Well-Being) by addressing pollution and public health risks related to infrastructure development; o SDG 15 (Life on Land) by advocating for biodiversity-inclusive EIAs to protect terrestrial ecosystems; o SDG 2 and 5 by ensuring food security and gender-sensitive planning in project-affected areas. From an academic perspective, the study contributes to curriculum development, capacity building, and research output within the Department of Civil Engineering. It offers practical insights and teaching resources that can benefit students, researchers, and professionals interested in sustainable development, environmental policy, and infrastructure planning. Overall, this research seeks to bridge the gap between policy, practice, and education by promoting a more integrated, climate-conscious, and socially inclusive approach to environmental impact assessment in Bangladesh.

Details of Program		
Planning		
Objectives	Long-term Goals	o To review the current implementation practices of EIA qualitatively and quantitatively in the aforementioned section of the development project in Bangladesh. o To propose a uniform framework for incorporating climate change impacts into the EIA process, ensuring consistency with the ECR.
	Short-term Targets	o To enhance the academic curriculum and research capacity of the Department of Civil Engineering by offering evidence-based insights into environmental regulations and sustainable infrastructure planning. o To serve as a reference study for students, enabling them to better grasp the interdisciplinary connection between civil engineering, environmental policy, and climate science. o To foster a research-oriented mindset among civil engineering students by exposing them to contemporary challenges in environmental compliance and sustainable development. o To develop academic resources and analytical tools that can be used in coursework, capstone projects, and theses related to infrastructure development, environmental management, and climate resilience. o To encourage collaborative learning and interdepartmental research by bridging civil engineering with environmental science, policy studies, and urban planning.
	Rationale	The Dhaka–Chattogram Highway is a vital economic corridor for Bangladesh, but its expansion raises serious environmental and socioeconomic concerns. Although Environmental Impact Assessments (EIA) are mandatory, current practices often lack enforcement, neglect climate change integration, and show weak alignment with the Environmental Conservation Rules (ECR 2023). These gaps risk long-term environmental degradation, community displacement, and unsustainable infrastructure growth. This study is justified as it seeks to develop a standardized framework for climate-responsive EIAs, ensuring consistency with national regulations and international best practices. By addressing critical shortcomings in current practices, the research will safeguard ecosystems, public health, and livelihoods, while also contributing to academic knowledge and policy development. Ultimately, it aims to promote climate-resilient, socially inclusive, and sustainable infrastructure planning in Bangladesh.
Subject (Leader)	Initiator(s)	ZUBAER, ABDUR RAZZAK
	Champion(s)	ZUBAER, ABDUR RAZZAK
	Major team member(s)	ZUBAER, ABDUR RAZZAK; RAHMAN, TAIMUR
Environment	Nature/Society	This study benefits society by ensuring highway expansion is both environmentally sustainable and socially inclusive. Stronger EIAs with climate considerations will reduce pollution, protect ecosystems, and safeguard public health. Communities at risk of displacement or livelihood loss will gain better protection through equity-focused and gender-sensitive planning. By promoting accountability and transparency, the research builds public trust in infrastructure projects while supporting sustainable economic

		growth and climate resilience in Bangladesh.
	Industry/Market	This research project holds significant potential to elevate the reputation of both the department and the university as leading centers for innovative and impactful research in environmental engineering.
	Citizen/Government	The findings may assist government agencies and regulatory bodies in refining and updating policies related to Environmental Impact Assessment (EIA), while also promoting the systematic integration of climate change considerations within the EIA framework.
Resources	Human resources	The success of this program largely depends on the availability of skilled and committed human resources. The Department of Civil Engineering has faculty members and researchers with expertise in environmental engineering, climate policy, and infrastructure planning, which provides a strong academic foundation. Additionally, the inclusion of students, local stakeholders, and technical experts through Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) ensures diverse perspectives. However, capacity-building initiatives such as specialized training in climate-responsive EIA methods may be required to equip the team with advanced analytical and policy-oriented skills fully.
	Financial resources	Adequate financial resources are essential to carry out data collection, field visits, stakeholder consultations, and technical analysis effectively. The program will likely require funding for travel, logistics, survey tools, and the use of statistical and environmental modeling software.
	Technological resources	Technological support is another critical determinant of the program's success. Access to advanced tools such as Geographic Information Systems (GIS), statistical software (e.g., JASP, STATA), and environmental monitoring equipment ensures high-quality data analysis and accurate evaluation of ecological impacts. The university has basic technological infrastructure in place.
Mechanism	Strategy (Weight/Sequence)	The program's strategic directions must prioritize the subject matter, environment, and resources in a balanced sequence. First, the subject - the integration of climate-responsive Environmental Impact Assessments (EIA) - is the top priority, as it defines the program's core academic and policy objectives. Second, the environment, which includes the regulatory framework, community context, and ecological sustainability, must be emphasized to ensure real-world relevance and societal impact. Finally, resources—human, financial, and technological - serve as enabling factors that determine the feasibility of achieving these goals. By sequencing subject → environment → resources, the program ensures that academic rigor drives practical application, supported by an adequate base of capacity and infrastructure.
	Organization	The university's organizational structure generally aligns with the program's strategies, as it encourages interdisciplinary collaboration across engineering, environmental science, and policy studies. The presence of specialized departments and research centers facilitates knowledge exchange, while administrative units provide logistical and financial oversight.
	Culture	The university's culture supports the program's execution by promoting innovation, sustainability, and community engagement. Faculty and students are encouraged to pursue applied research and collaboration, creating an enabling environment that strengthens the program and ensures its smooth implementation.

Doing	
Launch date	March, 2026
Responsible organization	World University of Bangladesh (WUB)
Program content and process	The program focuses on assessing environmental and socioeconomic concerns in the expansion of the Dhaka-Chattogram Highway, with special emphasis on the Dhaka corridor. Its content combines academic research, policy analysis, and applied engineering perspectives to strengthen Environmental Impact Assessments (EIA). The study evaluates current EIA practices, identifies gaps - particularly in climate change integration - and proposes a standardized framework aligned with the Environmental Conservation Rules (ECR 2023). The implementation process follows a structured sequence: (1) literature review and desktop study to identify existing practices; (2) field-level data collection through Key Informant Interviews (KIIs), Focus Group Discussions (FGDs), and meteorological data analysis; (3) evaluation of existing EIA reports against climate and regulatory criteria; and (4) development of a proposed framework to improve accountability, climate resilience, and inclusiveness in EIA. The final stage involves the dissemination of findings through academic publications, case studies, and policy briefs to influence both teaching and policymaking.
Key highlights of the content/process	The content of the program is defined by three major highlights: (1) integration of climate change considerations into EIA, (2) alignment of project evaluations with national regulations and international best practices, and (3) inclusion of socioeconomic dimensions such as gender and community impacts. Similarly, the implementation process is distinguished by three key features: (1) participatory data collection involving stakeholders through KIIs and FGDs, (2) rigorous use of technological tools like JASP and GIS for data analysis, and (3) structured benchmarking of EIA practices against international standards. Collectively, these highlights ensure that the program remains both technically robust and socially relevant.
Differences from traditional approaches	-
Progress as of today	-
Problems in implementation	Although the program is still in its preparatory stage, several potential challenges have already been identified that could hinder smooth implementation. These include limited availability of skilled human resources trained specifically in climate-responsive EIA, uncertainty about securing sufficient financial resources for extensive fieldwork and stakeholder consultations, and potential gaps in technological support, such as advanced GIS or modeling software. Additionally, bureaucratic delays in obtaining permissions from relevant government bodies and limited community awareness about EIA processes could pose further obstacles.
Approaches to solve the problems	Although implementation has not yet started, the program intends to apply these solutions systematically once activities begin. Human resource gaps will be bridged through training workshops and expert consultations, while financial shortfalls will be managed by diversifying funding sources and phasing expenditures. Technological gaps will be addressed by gradually

	integrating advanced tools as resources become available, ensuring that analysis remains robust without halting progress. By anticipating these challenges in advance, the program is better positioned to implement practical solutions effectively once execution is underway.
Completion date, if completed	-
Seeing	
Impacts on students	o Enhanced Learning: Students may gain exposure to EIA and climate applications in environmental engineering, broadening their technical and analytical skills. o Research Opportunities: The study could inspire students to pursue similar research, fostering innovation and deepening understanding in this field.
Impacts on professors	o Academic Recognition: Integrating Environmental Impact Assessment (EIA) into the university curriculum presents a valuable opportunity for the institution and its faculty to gain academic recognition. By embedding EIA education within relevant courses, the university can position itself as a leader in environmental education and applied sustainability practices. This initiative not only enhances the academic profile of the institution but also equips students with practical, in-demand skills aligned with national development priorities. Furthermore, it contributes to the advancement of a structured EIA framework tailored to the socio-environmental context of Bangladesh, reinforcing the university's role in shaping responsible and informed future professionals. o Curriculum Development: Professors might integrate Environmental Impact Assessment (EIA) into their curriculum, positioning themselves at the forefront of environmental and engineering education. By incorporating EIA principles, methodologies, and case studies, faculty can ensure that students are equipped with the knowledge and skills necessary to address complex environmental challenges, aligning academic instruction with current national and global sustainability standards.
Impacts on university administration	(Indicate whether the university president and administrators are satisfied with the program's outcomes.)
Responses from industry/market	Since the program has not yet been implemented, industry satisfaction cannot be directly measured at this stage. However, early discussions and informal feedback from stakeholders in the construction, transport, and environmental consultancy sectors indicate a strong interest in the program's objectives. Industries recognize that a standardized, climate-responsive EIA framework could improve efficiency, reduce regulatory uncertainty, and enhance their reputation for sustainable practices. This anticipation suggests that once outcomes are delivered, industry satisfaction is likely to be high, provided that recommendations are practical and adaptable to real project needs.
Responses from citizen/government	Local citizens along the Dhaka–Chattogram corridor have not yet experienced the program's outcomes, but initial feedback shows hope that it will reduce air pollution, displacement risks, and livelihood disruptions. Satisfaction will depend on how well community voices are included and safeguarded. Similarly, the government has shown interest in strengthening EIAs under the ECR 2023. While outcomes are pending, officials are expected to welcome evidence-based recommendations that support project approval, climate adaptation, and SDG alignment, provided they are

<table>
<tr><td></td><td>practical and implementable.</td></tr>
<tr><td>Measurable output (revenues)</td><td>-</td></tr>
<tr><td>Measurable input (expenses)</td><td>-</td></tr>
<tr><td>Cost-benefit analysis for effectiveness</td><td>-</td></tr>
<tr><td colspan="2">Future Planning</td></tr>
<tr><td>Where does the project go from here?</td><td>This program sets the foundation for more sustainable and inclusive infrastructure development in Bangladesh. By introducing a climate-responsive and socially sensitive EIA framework, it aims to protect communities, guide policymakers, and support national goals. Though implementation is yet to begin, the initiative represents a forward-looking step toward balancing growth with environmental stewardship and long-term resilience.</td></tr>
<tr><td colspan="2">Addendum</td></tr>
<tr><td>Exhibits, pictures, diagrams, etc.</td><td>This study is limited to Zone 1, which encompasses the 10-kilometer stretch from Jatrabari to Kanchpur Bridge.

Table 1: Spatial Segmentation of the Dhaka–Chattogram Highway.

<table>
<tr><th>Zone No</th><th>Zone Name</th><th>Start Chainage</th><th>End Chainage</th><th>Length (km)</th></tr>
<tr><td>1</td><td>Jatrabari to Kanchpur Bridge</td><td>0+000</td><td>10+000</td><td>10</td></tr>
<tr><td>2</td><td>Kanchpur Bridge to Gazaria</td><td>10+000</td><td>28+000</td><td>18</td></tr>
<tr><td>3</td><td>Gazaria to Daudkandi</td><td>28+000</td><td>40+000</td><td>12</td></tr>
<tr><td>4</td><td>Daudkandi to Nimsar</td><td>40+000</td><td>74+000</td><td>34</td></tr>
<tr><td>5</td><td>Nimsar to Suagazi Bazar</td><td>74+000</td><td>100+000</td><td>26</td></tr>
<tr><td>6</td><td>Suagazi Bazar to Mohammad Ali Bazar</td><td>100+000</td><td>138+000</td><td>38</td></tr>
<tr><td>7</td><td>Mohammad Ali Bazar to Bariyarhat</td><td>138+000</td><td>167+000</td><td>29</td></tr>
<tr><td>8</td><td>Bariyarhat to Barabkunda</td><td>167+000</td><td>205+000</td><td>38</td></tr>
<tr><td>9</td><td>Barabkunda to Salimpur</td><td>205+000</td><td>226+000</td><td>21</td></tr>
<tr><td>10</td><td>Salimpur to City Gate</td><td>226+000</td><td>229+000</td><td>3</td></tr>
<tr><td>11</td><td>City Gate to Alankar Mor</td><td>229+000</td><td>231+000</td><td>2</td></tr>
</table></td></tr>
</table>

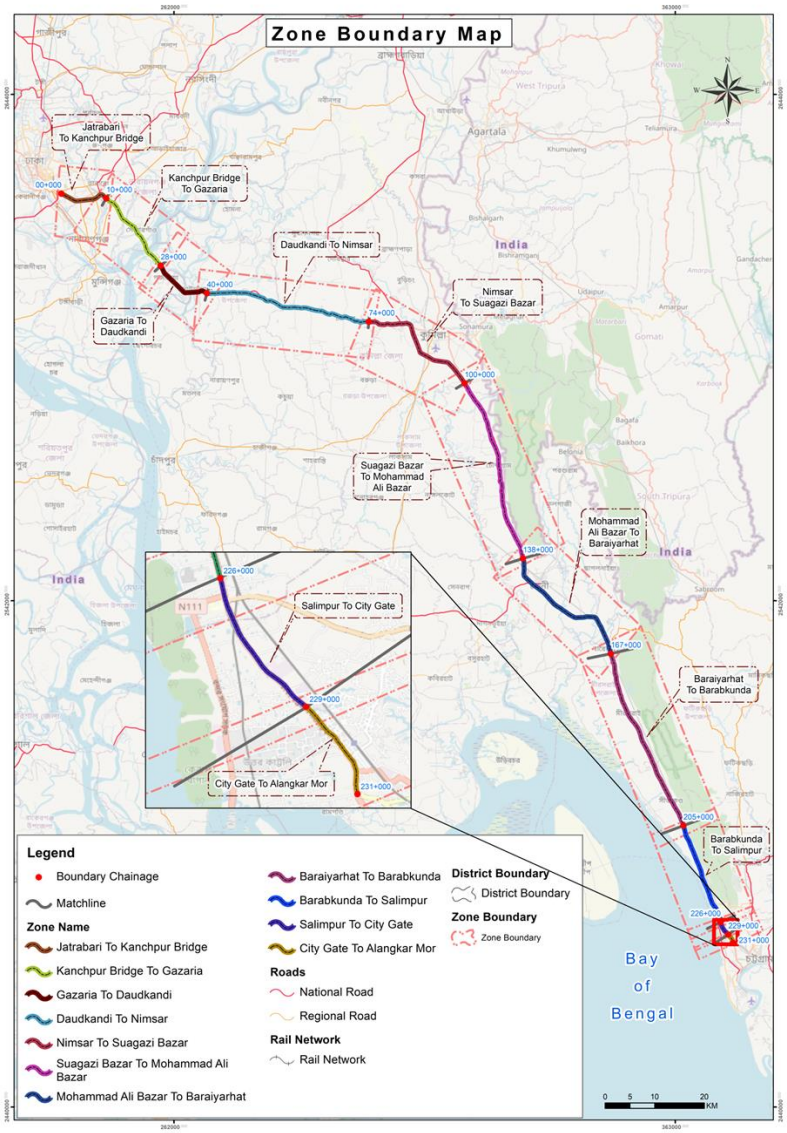
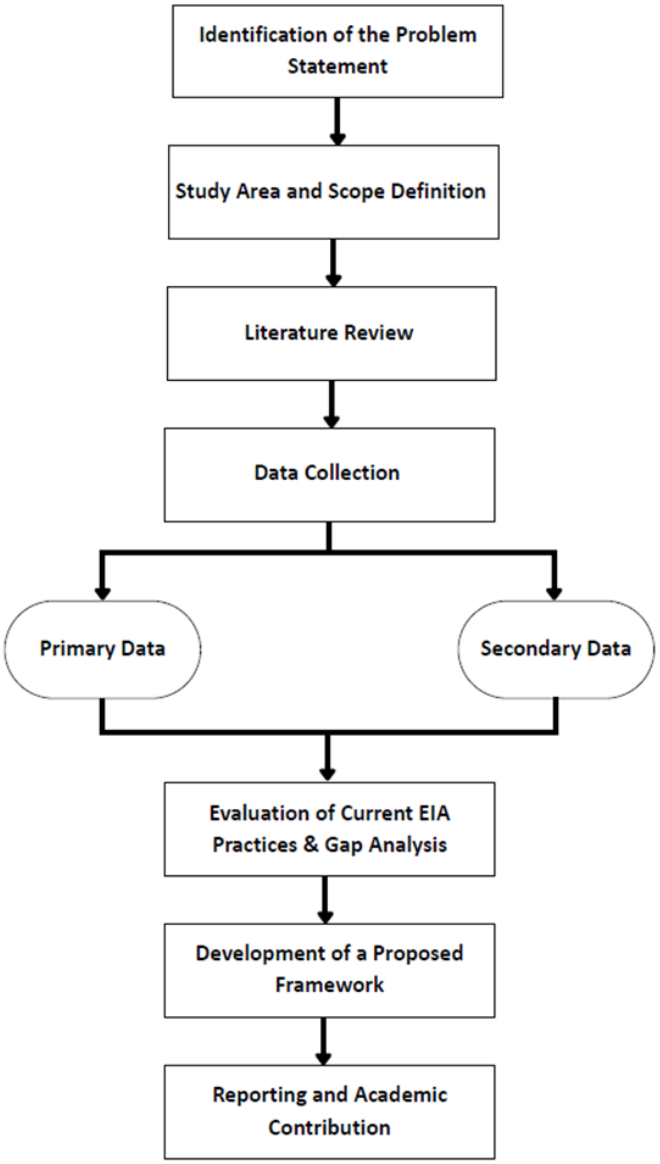


Figure 1: Dhaka Chittagong Highway Alignment Map.

	 *Figure 2: A Framework for Work Program and Method Statement.*
Reports, mimeos, monographs, books, etc.	To validate the scientific merit of this project, the research team intends to publish at least one article in a Scopus-indexed journal.
Others which may help explain the program (including website links)	A final report will be submitted to the university for record-keeping purposes.