

<b>Field of Study: Environmental Science and Climate Change</b>
<b>Title: Environmental Impact of Carbon Emissions in Bangladesh's Textile Sector</b>
<b>Author(s):</b> <sup>1</sup> ABTAHI ISLAM
<b>Affiliation:</b> <sup>1</sup> American International University – Bangladesh, Dhaka 1229, Bangladesh <sup>2</sup> Bangladesh University of Textiles, Dhaka 1208, Bangladesh
<b>Presenting author &amp; Email:</b> ABTAHI ISLAM (23-50434-1@student.aiub.edu)
<b>Corresponding author:</b> Jannatul Fardus, American International University – Bangladesh. Email: jannatul@aiub.edu
<b>Title: Environmental Impact of Carbon Emissions in Bangladesh's Textile Sector</b>  <b><u>Abstract:</u></b> <p>The textile industry is one of the drivers behind the global economy but has had a detrimental effect on both the environment and the climate, particularly in terms of carbon emissions. The study aims to estimate the carbon emissions associated with Bangladesh's textile sector and proposes sustainable practices. In this research, it investigates awareness of carbon emissions, and issues associated with industry practices, as well as preferences for mitigation strategies among factory workers, managers, suppliers and the general public through a quantitative survey of 159 respondents. They show that the largest source of emissions arises during production and that fossil fuels are the primary energy source. A Chi-square test of independence showed a statistically significant association between respondents' awareness of carbon emissions and their occupation, <math>\chi^2 = 16.32</math> (<math>p &lt; 0.05</math>), indicating that factory workers have lower awareness levels than managers and suppliers. Though 49.1% think the sector is responsible for a significant portion of emissions, knowledge of sustainability policies is still low. The study points to the need for government incentives, renewable energy adoption and improved worker training programs to minimize the environmental impact of the sector. The study focuses on delivering innovation to the sustainable practices system in Bangladesh's textile industry.</p> <b><u>Keywords:</u></b> Textile industry, Carbon emissions, Renewable energy, Sustainability, Environmental impact.