



A case study

Climate change implications and the status of just transition in the informal economy (Rickshaw puller, Transport, Platform economy): Employment security a core focus

Professor Md. Rezaul Karim, Ph.D., Rabeya Khanum, Syed Zharif Uddin Ahmed

Support for effective and inclusive Trade Unions in Bangladesh



BANGLADESH INSTITUTE OF LABOUR STUDIES-BILS

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Executive Summary

Introduction and objectives

Climate change represents an existential global challenge, with disproportionate impacts on developing countries and vulnerable communities. Dhaka City, the capital of Bangladesh, exemplifies these challenges, particularly within its informal transportation sector. This research examines the intersection of climate change impacts, employment security, and the principles of just transition for rickshaw pullers, bus workers, and platform-based transport providers. Informal transport workers, critical to the city's economy, are among the most exposed to climate-related adversities, facing risks such as extreme weather, environmental degradation, and regulatory challenges. The study aims to generate empirical evidence, assess the feasibility of just transition frameworks, and provide actionable recommendations to enhance climate resilience and social equity for this workforce.

Methodology

To ensure a robust analysis, the study employed a mixed-method approach. Quantitative data were gathered from 384 transport workers across six key zones of Dhaka City using a stratified random sampling technique. Respondents represented diverse transport modalities, including paddle and battery rickshaws, public buses, and app-based services like Uber. This was complemented by qualitative data collection through Focus Group Discussions (FGDs), Key Informant Interviews (KIIs), case studies, and consultation meetings with stakeholders such as trade union leaders, policymakers, and experts from organizations like the International Labour Organization (ILO). This triangulated methodology enabled a comprehensive understanding of socio-economic profiles, climate vulnerabilities, and the potential for implementing just transition frameworks.

Key findings

Socio-economic and occupational profile of transport workers

- **Demographics:** The workforce primarily comprises young to middle-aged individuals, with an average age of 36.2 years. Over 86% of workers are married, indicating significant family responsibilities. Despite their essential role in Dhaka's economy, 41.9% of respondents report economic deficits to maintain their family, highlighting widespread financial instability.
- **Educational attainment:** On average, transport workers have only 6.2 years of schooling. While some have completed secondary education, 17.7% lack formal education entirely, limiting their upward mobility and access to better job opportunities.
- **Work patterns:** Most workers (92%) are engaged full-time, dedicating an average of 10 hours daily, often in harsh environmental conditions. Weekly work hours often exceed 70 hours, reflecting the demanding nature of their jobs.
- **Income and financial challenges:** Daily earnings average BDT 758, with significant disparities across job types. Bus drivers earn the highest (BDT 1,134.8/day), while

paddle rickshaw pullers earn the lowest (BDT 612.8/day). Vehicle ownership is limited (23%), with most workers relying on leasing or salaried arrangements, exacerbating financial insecurity.

Awareness and impact of climate change

- Levels of awareness: While 52.9% of workers demonstrate high awareness of climate hazards, the depth of understanding varies. Platform-based workers, such as Uber drivers, show higher awareness, likely due to better education and access to digital resources. Traditional workers, such as rickshaw pullers, exhibit lower awareness due to limited information access.
- Perceived impacts: The effects of climate change—rising temperatures, erratic rainfall, and flooding—disrupt livelihoods, increase living costs, and exacerbate health risks. Workers also report escalating costs for food, housing, and vehicle maintenance, further straining their financial capacity.
- Severity of impacts: Uber CNG drivers face the most severe challenges, with high operational costs and unpredictable demand. Bus workers and battery rickshaw pullers also report significant vulnerabilities due to their exposure to adverse weather and traffic congestion.

Adaptation and coping mechanisms

- Protective measures: Workers employ limited strategies to mitigate climate risks, such as using personal protective equipment and modifying vehicles to improve heat resilience. However, financial constraints and lack of institutional support limit these efforts.
- Occupational mobility: Climate-induced adversities compel some workers to shift occupations. However, the lack of reskilling programs and opportunities within the informal economy restricts their mobility.
- Health impacts: Workers frequently face heat stress, respiratory illnesses from air pollution, and injuries due to unsafe working conditions, all of which elevate healthcare costs.

Role of Trade Unions and policy gaps

- Trade union engagement: Awareness of labor rights and trade unions (TUs) is low among informal workers. TUs play a limited role in advocating for climate resilience and employment security, reflecting a gap in their capacity and engagement.
- Policy challenges: Existing regulatory frameworks inadequately address the unique challenges of informal transport workers. Policies often focus on environmental goals without considering the social equity required for a just transition. Informal workers' exclusion from formal social protections exacerbates their vulnerabilities.

Recommendations

Enhancing climate resilience

1. Targeted policies: Develop inclusive policies that prioritize employment security,

fair wages, and sustainable livelihoods. These should address specific vulnerabilities of transport workers, such as housing, health, and financial stability.

2. Urban infrastructure: Invest in resilient urban infrastructure to mitigate climate risks, including flood management systems and shaded transport hubs. Improved roads and transport facilities can enhance safety and efficiency.
3. Social protections: Extend social protection schemes to informal workers, including health insurance, subsidized housing, and financial assistance during climate-induced disruptions.

Promoting just transition

4. Strengthening trade union activities: Build the capacity of TUs to address climate challenges and advocate for workers' rights. Training programs should focus on climate resilience, labor rights, and negotiation skills.
5. Reskilling initiatives: Implement workforce development programs to reskill workers for emerging green jobs, such as operating electric vehicles or maintaining renewable energy systems.
6. Incentivizing green practices: Encourage the adoption of eco-friendly transport systems through subsidies, tax incentives, and public awareness campaigns.

Advocacy and multi-stakeholder collaboration

7. Stakeholder engagement: Foster collaboration among policymakers, TUs, NGOs, and international organizations to develop comprehensive frameworks for just transition. Engage workers in the policymaking process to ensure their needs and perspectives are addressed.
8. Awareness campaigns: Launch targeted campaigns to educate workers about climate risks, adaptation strategies, and labor rights. Digital platforms, community workshops, and media outreach can enhance awareness and participation.
9. Global partnerships: Leverage international expertise and funding to support local initiatives for climate resilience and green development.

Conclusion

This research underscores the urgent need for a holistic approach to addressing the impacts of climate change on Dhaka's informal transport sector. Integrating just transition principles into policymaking and advocacy efforts is essential for balancing environmental goals with social equity. Empowering trade unions, reskilling workers, and fostering multi-stakeholder collaboration are critical to building resilience and ensuring sustainable livelihoods.

By prioritizing the well-being of informal workers, Dhaka City can set an example for inclusive urban development in the face of climate challenges. The findings and recommendations of this study aim to inform policymakers, trade unions, and international organizations in their efforts to create a more equitable and sustainable future for transport workers and the broader urban community.

Chapter-1

Introduction and Background of the Study

1.1 Introduction & rationale of the study

1.1.1 Introduction

Climate change represents one of the most pressing global challenges, with impacts felt across all sectors of society. The informal economy, particularly in developing countries like Bangladesh, is acutely vulnerable to these changes due to its structural informality, lack of social protections, and reliance on climate-sensitive activities. In Dhaka City, where the informal economy constitutes the lifeline for a significant proportion of the population, informal transportation sectors such as rickshaw pulling, bus services, and platform-based transport services play a critical role in urban mobility and economic activity. However, the workers in these sectors are disproportionately affected by the adverse effects of climate change. Rising temperatures, increasing instances of extreme weather events, and urban environmental degradation have heightened the vulnerability of these workers, impacting their health, productivity, and income security. For instance, erratic rainfall and frequent flooding disrupt transportation networks, while excessive heat poses health risks for rickshaw pullers and other outdoor workers. Additionally, regulatory shifts such as restrictions on rickshaw operations, the introduction of electric vehicles, and evolving policies around platform-based transport further complicate the landscape of employment for these workers.

This study aims to investigate the intersection of climate change, employment security, and the concept of a "just transition" in Dhaka's informal transportation sectors. A just transition framework seeks to ensure that the shift towards environmentally sustainable practices and economies is inclusive and equitable, safeguarding the rights and livelihoods of workers most at risk. This research intends to generate empirical evidence on the vulnerabilities of informal transport workers and assess the feasibility of implementing just transition principles within the unique socio-economic context of Bangladesh.

1.1.2 Rationale of the study

The informal economy in Bangladesh is vast, encompassing over 94% of the country's total employment. Despite its critical role in providing livelihoods, the sector is characterized by precarious working conditions, lack of formal protections, and limited resilience to external shocks such as climate change. Transportation workers in Dhaka City are particularly at risk, as the sector undergoes rapid transitions influenced by climate change, urbanization, and evolving regulatory frameworks. For instance, restrictions on rickshaw operations, the rise of platform-based transport, and the impacts of extreme weather events collectively threaten the stability of these livelihoods.

The concept of "just transition" offers a promising pathway to address these challenges by balancing environmental sustainability with social equity. However, its application to the informal economy remains underexplored, particularly in developing countries like

Bangladesh. This research is essential to bridge this gap, providing empirical insights into the specific vulnerabilities of informal transport workers and identifying opportunities for implementing just transition frameworks in this context.

Despite the importance of informal transportation sectors, their role in climate resilience and the broader framework of a just transition remains underexplored. The just transition concept, widely recognized in formal industries, is relatively new in the context of informal economies. Implementing this framework requires addressing the dual goals of environmental sustainability and social justice, ensuring that no worker is left behind in the transition to greener practices. In this context this study contributes to global relevance by focusing on the informal sector in a developing country, identifying national gaps through providing critical evidence to inform policymaking and advocacy efforts, and empowering trade unions equipping them with evidence-based insights and actionable strategies enhancing their capacity. Through collaboration with trade unions, policymakers, and other stakeholders, this study aims to enhance the capacity of labor organizations to advocate effectively for their members. By focusing on employment security, labor rights, and climate resilience, it seeks to contribute to a more equitable and sustainable future for Dhaka City's informal transportation sector.

1.2 Objectives of the research

As per the TOR, this study is primarily intended to gain insight into the implications of climate change and the status of just transition in Bangladesh's informal economy. It includes investigating the specific climate change impacts on the rickshaw puller, transport workers, and platform economy in perspective of just transition. And, based on the research findings, developing a policy brief and a TU position paper. Specific objectives include;

1. To analyze the intersectionality of climate change impacts within the selected informal economy. To identify the status of the employment securities and relevant vulnerabilities arising from the impacts of climate change on the selected sectors.
2. To explore the concept of just transition and relevant frameworks, considering its application within the context of selected informal economy sectors.
3. To review existing global and regional just transition standards and practices for the informal economy and to specify possible national standards for the studied sectors with a particular focus on climate change.
4. To assess TUs' preparedness, challenges and demands to address just transition in the selected sectors.
5. To develop a policy brief following the research findings.
6. To develop a TU position paper based on the research findings.

1.3 Statement of the problem

1.3.1 Problem statement of targeted informal sector

The informal economy refers to economic activities that are not regulated by the government or formalized through legal frameworks. It encompasses a wide range of activities and employment arrangements that operate outside of official channels. According to

International Monetary Fund (2020),¹ “the informal economy, comprising activities that have market value and would add to tax revenue and GDP if they were recorded.”

According to ILO (2018)² 61 percent (two billion) of world’s population employed in informal economy. The informal sector constitutes almost entire workforce in Bangladesh, covering a wide range of activities and livelihoods. According to World Bank database, in Bangladesh, 94.7 percent of total employment was in informal sector in 2017.³ The boundary of informal economy is widening with the emergence of non-standard forms of employment like digital labour platforms (UNDP, 2022). The COVID-19 crisis has starkly revealed the fragility of the informal economy, underscoring the imperative for bolstered policy measures.

The informal economy exists in both developed and developing countries, but it tends to be more prevalent in the developing countries like Bangladesh due to factors such as high levels of poverty, limited access to formal employment opportunities, and inadequate regulatory frameworks. While the informal economy provides livelihoods for many people, it also poses challenges such as lack of social protections, vulnerability to exploitation, and difficulties in accessing credit and other financial services. The informal economy employment encompasses a wide range of activities and occupations. Some of these are: street vendors and hawkers, domestic workers, day laborers and casual workers, self-employed entrepreneurs, unregistered small-scale farmers, informal transport workers, informal service providers, informal waste pickers, and so on. Generally, informal economy employment is characterized by its lack of formalization, with workers often facing challenges such as low wages, limited access to social protections, and precarious working conditions.

The transport sector in Dhaka City operates predominantly within the informal economy, with a diverse range of informal operators providing essential transportation services to residents and businesses, while also reflecting the challenges and complexities of informal employment and urban mobility in Bangladesh's capital. Rickshaw, bus, and platform (Uber, Pathao, Obhai, etc.) are three predominant transportation sectors providing essential transportation services to almost entire residents of Dhaka city. Despite their significant contribution to employment and economic growth, concerns remain over labor rights, particularly employment security, within these sectors.

1.3.2 Rickshaw pulling

In Dhaka City, the sight of rickshaws weaving through traffic has become synonymous with urban life. It is not just a mode of transportation; they are a lifeline for millions of residents navigating the chaotic urban landscape as well as thousands of rickshaw

¹ International Monetary Fund (2020). What is the Informal Economy”. Finance & Development, International Monetary Fund. Available at: <https://www.imf.org/en/Publications/fandd/issues/2020/12/what-is-the-informal-economy-basics>

² <https://www.ilo.org/resource/news/more-60-cent-worlds-employed-population-are-informal-economy>

³ Elgin, C., M. A. Kose, F. Ohnsorge, and S. Yu. 2021. “Understanding Informality.” CERP Discussion Paper 16497, Centre for Economic Policy Research, London. Available at: <https://www.worldbank.org/en/research/brief/informal-economy-database>

pullers. However, behind the vibrant colors and rhythmic pedaling lies a sector fraught with challenges, particularly for the individuals who make their livelihoods as rickshaw pullers. The challenges confronting the rickshaw pulling sector in Dhaka City are complex and multifaceted, requiring concerted efforts and innovative solutions to achieve a "just transition" to more equitable and sustainable transportation systems. In the midst, climate change poses significant challenges to Dhaka City's rickshaw pulling sector, exacerbating existing vulnerabilities and compounding the hardships faced by pullers. Rising temperatures, increased frequency of extreme weather events, erratic rainfall patterns, and environmental degradation have direct implications for pullers' livelihoods, as they are exposed to harsh working conditions and heightened health risks. Addressing these challenges of climate change in Dhaka City's rickshaw pulling sector requires a holistic approach that integrates environmental sustainability, social equity, and economic resilience. By prioritizing a just transition that empowers pullers, enhances their resilience to climate change impacts, and promotes environmentally sustainable practices.

1.3.3 Bus services

Streets of Dhaka City are teeming with informal bus services, vital lifelines for millions of commuters navigating the urban landscape. However, the sector faces mounting challenges exacerbated by the impacts of climate change. Climate change poses multifaceted challenges to Dhaka City's informal bus services, affecting operations, safety, and overall viability. Extreme weather events, such as heavy rainfall and flooding, disrupt routes and schedules, leading to service disruptions and decreased passenger demand. Rising temperatures exacerbate air pollution and heat-related health risks, impacting both passengers and bus operators. Bus operators often face economic instability, safety hazards, environmental impact, and social vulnerability. A just transition is imperative to address the intersecting challenges of climate change and informal bus services in Dhaka City's economy. Addressing the impacts of climate change on informal bus services in Dhaka City requires a just transition approach that integrates economic resilience, environmental sustainability, safety, and social protection.

1.3.4 Platform-based transport services

In Dhaka City's ever-expanding urban landscape, platform-based transport services (Uber, Pathao, OBHAI, Etc.) have emerged as a prominent feature of the informal economy, offering convenient mobility solutions to thousands of residents. However, the sector is not immune to the far-reaching impacts of climate change. The effects of climate change are increasingly evident in Dhaka City, posing significant challenges to platform-based transport services and their stakeholders. Extreme weather events, such as heavy rainfall and flooding, disrupt service operations and exacerbate road congestion, leading to delays and increased travel times for drivers and passengers. Rising temperatures and heatwaves intensify heat stress and air pollution levels, affecting driver health and passenger comfort. A just transition is imperative to address the intersecting challenges of climate change and platform-based transport services in Dhaka City's informal economy. Addressing the impacts of climate change on platform-based transport services in Dhaka City's informal economy requires a comprehensive approach that integrates the principles of a just transition.

1.3.5 Rationale of the study

Given the above context, this research delves into the intersection of climate change and above three informal sector transport services in Dhaka City, advocating for a "just transition" that addresses environmental vulnerabilities while safeguarding the rights and livelihoods of drivers and users alike. The transport sector is constantly modernizing yet labor rights and employment security are severely lacking. Additionally, the informal economy, including the three sectors under consideration, is highly sensitive to external shocks and structural changes due to climate change as discussed. Extreme weather events disrupt transportation networks, damage infrastructure, and compromise working conditions, leading to poor health and income insecurity among workers. Given this scenario, there is an emerging need for a "just transition". Although the concept is gaining traction globally, it is relatively new in developing countries like Bangladesh. Furthermore, there is a gap in understanding how to implement a just transition in the context of informal economy sectors such as rickshaw pulling, bus transport and the platform-based transportation or ridesharing. Little attention has been paid to linking the impacts of climate change with existing employment dynamics and the strategies needed to ensure worker resilience and security.

Empirical evidence and supportive policies are essential to address these challenges. TUs need to be educated and prepared to effectively navigate the just transition to the informal economy. Thus, this study aims to generate empirical evidence on the impact of climate change on employment protection and labor rights in the informal economy and assess the status and potential for a just transition in the rickshaw pulling, transport and platform economy sectors. Addressing the complex challenges facing the informal economy in Bangladesh requires a multi-pronged approach, particularly in sectors such as rickshaw pulling, bus transport and the platform economy. Empirical evidence emphasizes the urgent need to prioritize labor rights and employment protection when navigating the impacts of climate change. By embracing the concept of just transition among stakeholders including trade unions, policymakers and researchers, meaningful progress can be made to ensure resilience and security for workers in this important sector.

1.4 Purpose of the research and work

The purpose of this research and consultation is multi-faceted which aims to address important aspects of climate change impacts and changing conditions within the informal economy of Bangladesh with a particular focus on rickshaw pullers, bus workers and platform-based transport workers. The purpose of this research and consultation can be outlined through a few key points:

Generating empirical evidence: The primary objective is to generate empirical evidence on the impact of climate change on the informal economy in Bangladesh, particularly focusing on employment security and labor rights within sectors such as rickshaw-pulling, transport and the platform economy.

Assessing the status of just transition: Another objective is to assess the current status of the fair transition framework within these sectors. Despite growing recognition, there is a lack of understanding of how to simply implement transformation in the context of the informal economy.

Identification of challenges: The research aims to identify specific challenges faced by workers in this sector due to the impact of climate change, including disruption of employment security and labor rights.

Pathways to resilience: Challenges Alongside research aims to explore strategies and pathways to increase workforce resilience and security in the face of climate change-induced challenges.

Policy brief development: A key output will be the development of a policy brief providing evidence-based recommendations to policymakers and stakeholders. This brief will advocate for inclusive and sustainable policies that address the needs of workers in the informal economy

Trade union position papers: Additionally, a position paper will be developed specifically for trade unions outlining their positions and recommendations on the impact of climate change on informal sector workers. This paper will strengthen trade unions to effectively advocate for the rights and welfare of workers.

Capacity building: As part of the larger project “Support for Effective and Inclusive Trade Unions in Bangladesh”, the research aims to increase the capacity of TUs through knowledge dissemination and capacity-building initiatives to enable them to engage in effective social dialogue and influence contemporary labor agenda.

Collaborative effort: The study will be a collaborative effort between the Bangladesh Institute of Labor Studies (BILS) and the International Labor Organization (ILO) in line with their shared goal of promoting sustainable and effective tripartite social dialogue to improve the lives of workers.

By addressing these issues, the research consultant seeks to contribute to a more just and sustainable future for informal sector workers in Bangladesh. It also seeks to ensure their rights, resilience and security in the face of climate change challenges.

1.5 Key research questions

- 1) What are the specific impacts of climate change on the informal economy of rickshaw pullers, bus transport workers and the platform-based transport workers in Dhaka City?
- 2) How do these climate change impacts intersect with existing vulnerabilities within the selected sectors, particularly with regard to employment security?
- 3) What are the transitions taking place in the rickshaw pulling, bus transport and platform economy services in recent years? Any linkage with climate change (Excessive heat and hot)? Any implication on employment security?
- 4) What is the current understanding and application of the concept of just transformation in the context of the informal economy sectors under study?
- 5) What are the existing global and regional frameworks and standards for just transition in the studied sectors and what should be the national standards?
- 6) Are the unions prepared to address just transition in the studied sectors? What are the challenges? What are the demands?

Chapter-2

Methodology of the Study

This chapter outlines the methodology followed in the study, including a description of the research design employed, the study location, the sample population, the sample size, the sampling strategies used, and the procedures and tools used for data collection. The chapter also focuses on how ethical concerns were handled in the current study and the reliability and validity of the data-gathering techniques. Lastly, the Chapter specifies how data are coded, cleaned, interpreted, and analyzed.

2.1 Research approach & design

The study adopted a mixed-method research approach. Quantitative and qualitative approaches were used to collect and analyze data to provide a more comprehensive understanding of the climate change implications on the informal transport sector from the perspective of just transition under this study. Under the quantitative approach, the study collected quantitative data from selected transport workers and analyzed the collected data using statistical techniques to understand the climate change implication and status of transition in the transport sector empirically and objectively. On the other hand, under the qualitative approach, non-numerical data were collected from specified respondents through Key Informant Interviews (KII), Focus Group Discussion (FGD) with TU members, Consultancy meetings with experts and document study to understand meanings, experiences, and perspectives (Table-2.1).

Table-2.1: Data collection methods		
Nature of Data	Data collection method	Data collection approach
Quantitative & Qualitative	Desk Review	Target documents: Research proposal, reports and relevant others documents, Approach: To get adequate secondary information/data about the project proposal, others survey report, different organization project report, government data etc. Will be collected & reviewed.
Quantitative	Questionnaire Survey	Target group: rickshaw puller, transport workers and service man from digital platform Approach: A questionnaire survey will be carried out through semi-structured questionnaire (or proposed 'BILS/ILO' direction) to capture the response from project beneficiaries. The study will be carried out through face to the face interview process.
Qualitative	KII, FGD, and Case Study	Target group: Representative from Government agencies, BILS, ILO, trade union leaders, trader union members, Policy makers, City corporation representatives and Executive member of digital platform apps. Approach: KII, FGDs will be conducted with developed checklist and guideline. For case studies, the most amazing and heart touching case stories will be collected by using participatory methods and following all the essential research ethics.
	Consultation Meeting	Target group: 'BILS/ILO' senior study focal. Approach: The study team will organize a meeting with the study focal for preparation and requirements for data collection.
	Stakeholder Workshop	Target group: 'BILS/ILO' senior study focal and the different TU members. Approach: The study team will organize a stakeholder workshop/meeting for data validation.

The study followed a cross-sectional research (retrospective in nature) design, i.e., data were collected from specified samples of different respondent categories at a specific theme. The numerical data were analysed using descriptive statistical techniques by using SPSS, while qualitative data were analysed using thematic principles and presented separately—the final interpretation combined qualitative and quantitative data insights to form a comprehensive understanding.

2.2 Area of the study and sampling

This research focuses on the impact of climate change and the status of just transition in the informal economy, especially on selected transport sector workers, including Rickshawpullers, Bus drivers and conductors, Leguna Drivers, and platform-based transport services drivers like Uber, CNG, and Motorcycle. The study is conducted in Dhaka North and South City Corporation. Within Dhaka City, data were collected from six zones including 1. Dhanmondi/ Mohammadpur; 2. Sadarghat/Lalbag; 3. Jatrabari; 4. Uttara; 5. Mirpur; 6. Banani / Gulshan to cover the important roots of the city and assemble the evidence.

2.2.1 Sampling techniques and sample size

Data were collected from both primary and secondary sources. As per the TOR, the study was carried out in Dhaka North and South City Corporation. The targeted respondents were taken from Dhanmondi/Mohammadpur, Sadarghat/Lalbag, Jatrabari, Uttara, Mirpur and Khilgaon/Basabo selected purposively by using stratified random sampling techniques to represent the target population with study coverage.

Sampling for the quantitative approach

The study adopted the non-purposive random sampling technique under the sample survey method to collect the quantitative data for the study. The sample size was determined 384 transport workers by following the standard sampling formula of Cochran (1977) and considering a 95 per cent confidence level and allowing ± 5 per cent error margin. Data collection was carried out by dividing this total sample equally among three target groups, specifically Rickshaw Pullers (128), Bus Workers (128), and Platform-Based Workers (128), as presented in Table 2. The sample size was distributed across specific areas using stratified random sampling techniques to ensure inclusiveness and fair representation.

Table-2.2: Category of the respondent									
Rickshaw puller		Transport				Digital Platform			Total
Paddle rickshaw 64	Battery rickshaw 64	Public bus		Laguna		Car	CNG	Bike	384
		64		64		42	43	43	
		Driver	Helper	Driver	Helper				
		32	32	32	32				
128		128				128			

$$^4 n = \frac{z^2 \cdot pq}{e^2}$$

Sampling for the qualitative approach

The qualitative method involved conducting in-depth interviews with various stakeholders and policymakers from the study intervention region to extract a variety of thought-provoking narratives. Participants were selected using targeted criteria, such as trade union membership, organizational roles, and lived experiences relevant to the study. Data collection methods included 4 Focus Group Discussions (FGDs) with the representative of TU, 7 Key Informant Interviews (KIs) with experts from the concerned organizations, 4 case studies with the transport workers, a meeting with policymakers and experts, a consultation session, and a national dissemination seminar presented in Table 3. Each method was assigned a sample size that balances diversity and depth while ensuring data saturation. The distribution includes trade union members from various sectors, organizational representatives (e.g., ILO, BILS, BLF, and UNIDO Bangladesh), policymakers, affected transport workers, and other stakeholders. This approach ensures the inclusion of diverse perspectives and enables a comprehensive understanding of the impact of climate change on the transport sector in the context of just transition.

Table-2.3: Qualitative sample distribution			
Tools	Target group criteria	Sample size	Total
FGD	Trade union members (Paddle Rickshaw pullers)	1	4
	Trade union members (Battery Rickshaw puller)	1	
	Trade union members (Bus transport)	1	
	Trade union members (Digital platform)	1	
KII	ILO representative	1	7
	BILS representative	1	
	BLF representative	1	
	UNIDO Bangladesh Representative	1	
	Representative of the Ministry of Labor and Employment	1	
	Policy maker	1	
	Representative of the Dhaka North city corporation	1	
Case study	Survivor/affected persons from Rickshaw puller, Transport worker and Digital platform worker)	3	4
	Women ride driver (Car)	1	
Meeting	BILS/ILO representative and study focal	1	1
Consultation meeting	Representatives from BILS, ILO, government agencies, TU leaders, policymakers, academia, city corporations and labour rights organizations	1	1
National dissemination seminar	Government agencies, international bodies like ILO, TUs, policymakers, city corporations, digital platform executives, etc.	1	1
Total		18	18

2.3 Methods of data collection

2.3.1 Nature and sources of data

This study incorporated qualitative and quantitative data collection methods in a mixed-method approach for better understanding the research objectives. For both types of data, the study entailed gathering data from both primary and secondary sources. The primary data were gathered through surveys and in-depth interviews (KII), Focus Group Discussions (FGD), Case Study, Consultation Meetings, and so on. The secondary data were collected from different types of articles, research papers, newspapers, and so on.

2.3.2 Data Collection methods and instruments for Quantitative approach

Quantitative data collection - Survey

Quantitative data were collected through face-to-face interviews with rickshaw pullers, bus and Leguna workers, and platform-based transport service workers using a semi-structured questionnaire that was carefully refined and finalized through a pre-testing process so that it could effectively capture the necessary data. The survey aimed to gather comprehensive insights into the respondents' experiences, challenges, and perspectives regarding the impact of climate change on transport sectors from the perspective of just transition. The questionnaire for the transport workers focused on their socio-economic background, the condition of workplaces, the experience of climate change concerned with impact and conscious level, journey through the adversity of climate change implications, job security under the context of just transition, labour rights and their position on Trade Union. During the data collection period, a total of 384 respondents were interviewed using this semi-structured questionnaire to provide a holistic view of the impact of climate change and the status of just transition in the transport sectors.

Qualitative data collection

The following qualitative arrangements and methods were adopted as per the following format to collect qualitative information used for qualitative analysis.

Focus Group Discussion (FGD): Four FGDs were conducted with Trade Union representatives from three areas (above-mentioned table). The participants were the members of TU of Rickshaw pullers (both paddle and battery rickshaws), Bus, and Uber (the platform-based transport service). It was conducted to understand the position of the Trade Union on climate change implications from the just transition perspective using a pre-prepared guideline and checklist. Each FGD consisted of 7-10 participants.

Key Informant Interview (KII): To gain an in-depth understanding of the impact of climate change on informal transport sectors in Dhaka city and the exploration of green development initiatives within the context of a just transition, this study conducted a total of 7 Key Informant Interviews (KIIs) with the experts who play critical roles in the enhancement of wellbeing of labourers. These key informants included one of each organization namely ILO, BILS, BLF, UNIDO Bangladesh, City Corporation of Dhaka City, and Ministry of Labour and Employment, each selected for their direct involvement and expertise in the welfare of workers.

The interviews were designed to delve deeply into the experiences, initiatives of green development, challenges, and perspectives of just transition in the informal economy. Through these in-depth discussions, this research tried to uncover the gaps in understanding climate resilience and identify practical recommendations for strengthening the framework of a sustainable planet in the universe. The findings from these KIIs are intended to help outline a more effective legislative and operational framework to reduce the negative impact of climate change, ensuring that appropriate initiatives to protect the environment through green development in a just transition way are better aligned with the emerging challenges in the transport sector.

Case Study: Four case studies were conducted with different categories of transport workers to explore how climate change impacted the livelihood of the workers, and health, as well as how various government initiatives affected their rights. This study conducted a total of 4 case studies constituted a female car driver who works in BRAC, a Motorcycle driver, a CNG driver and a Rickshaw puller. Each of the respondents is highly affected by climate change, except the car driver.

Consultation meeting for finalization of policy brief: A comprehensive consultation meeting was held, bringing together various stakeholders crucial for informed decision-making and policy formulation. Representatives from government agencies, legislative bodies, international organizations such as the ILO, TUs, policymakers, city corporations, and the Ministry of Employment and Labour participated in this method. A well-prepared guideline was developed to facilitate the meeting and to delve into the desired information that can help in the formulation of the best policy for the well-being of informal workers as well as climate resilience. A policy brief was prepared based on the outcomes of this consultation meeting, which was organized by BILS.

2.4 Data analysis

The analysis of the implications of climate change and the status of just transition in the informal economy of Bangladesh involved a comprehensive approach that integrated both quantitative and qualitative methods. This mixed-methods approach allowed for a detailed exploration of the implication of climate change on the living standard of the workers and the development of informed recommendations for improving the status of just transition of the workers of transport sectors.

Quantitative data analysis: Quantitative data were systematically processed using SPSS (Statistical Package for the Social Sciences), a powerful tool for handling and analyzing large datasets. At the beginning stage, the collected quantitative data were cleaned, entered computer through SPSS, and prepared for analysis. Various descriptive statistics were used to summarize, analyze and interpret the data. These included ‘frequencies and percentages’ to describe the distribution of categorical variables, such as the demographic and socio-economic background of the laborers, and the level of impact of climate change on their living standard; what kind of natural calamities were experienced. These measures provided a clear overview of the patterns and trends in the data. The results were presented using various tables and visual charts (bar charts, pie charts, etc.) to make the data more accessible and easier to interpret. Visualizations helped identify trends,

relationships, and differences in the data that might not be immediately apparent from raw numbers.

Qualitative data analysis: The qualitative aspect of the analysis focused on understanding the deeper, more nuanced insight about the impact of climate change on the livelihood of the informal economy under the context of green development in a just transition way. This analysis involved the following steps: First, qualitative data were collected through in-depth interviews, and open-ended survey responses with the experts of key informants, and guidelines and checklists were followed to collect the data in FGD, Consultancy meetings. The responses were then transcribed verbatim to maintain the authenticity and richness of the data. Second, the transcribed data were systematically coded and coding involved identifying key phrases, words, or sentences that represent significant aspects of the climate change implications. Third, from the coded data, major themes and patterns were identified. These themes could include impact of climate change like reduction of working hours, job vulnerability, increased maintenance and operational costs, low income, increasing health hazards, behavioral degradation, and so on. Themes helped in organizing the data around central ideas or concepts, making it easier to understand the underlying issues. Fourth, the themes were analyzed and interpreted to understand the broader implications and experiences of respondents. This step involved looking beyond the surface to draw insights into the impact of climate change, taking the green development initiatives in just transition way in the informal economy in Bangladesh.

2.5 Ethical considerations

In conducting research, careful attention to ethical considerations is paramount. It involved collecting data that could impact the privacy, security, and legal standing of the participants of the research. The ethical considerations outlined for this study are designed to ensure that the research is conducted in a manner that respects the rights, privacy, and well-being of all participants. The following principles were maintained:

Voluntary and Informed Consent: Enumerators explained the objectives of the survey to each respondent and obtained their informed consent prior to the interview. This process, referred to as "informed consent," was essential for participation. Interviews were not conducted unless respondents agreed to participate willingly.

Termination of Interview: Participants retained the right to decline or terminate the interview at any point during the survey. This was respected without any negative consequences for the respondents.

Protection of Interviewees: The safety and well-being of all interviewees were prioritized. Safeguarding measures were implemented, including gender-sensitive approaches to ensure a secure environment for participants.

Confidentiality: All collected data were treated as confidential and were not used without prior consent from the respondents. Only aggregated findings were included in the report, except for specific data from in-depth interviews (IDIs) and key informant interviews (KIs), FGD, Case Study where individual insights were necessary. Participants were informed that their information would be handled with confidentiality and used only in alignment with ethical guidelines.

Chapter-3

Results of Quantitative Study

This chapter presents the findings of quantitative approach adopted in the study. It is worth mentioning that data were collected from a statistically significant sample of 384 different transport workers through face to face interview using semi-structured questionnaire. Collected data were processed and analysed using SPSS software. Results are presented in the following sections.

3.1 Profile of the transport workers

3.1.1 Introduction to respondents (transport workers)

Table-3.1 shows the locations of the drivers in Dhaka City covered in the present study.

<i>Study location</i>	<i>No. of worker</i>	<i>%</i>
Mirpur	128	33.3
Mohammadpur	91	23.7
Gabtolli	27	7.0
Sadarghat	24	6.3
Sayedabad	16	4.2
Badda	22	5.7
Jatrabari	16	4.2
Dhandmondi	15	3.9
Gulshan	12	3.1
Banani	5	1.3
Basabo	10	2.6
Uttra/ Abdullahpur	18	4.7
Total	384	100.0

These drivers were surveyed to understand the impact of climate change in the context of a just transition. As seen, drivers were selected based on their availability in the surveyed locations, ensuring accessibility and representation from various parts of Dhaka City. Mirpur, as hub of informal transports, has the largest representation with 128 drivers, accounting for 33.3% of the total sample, followed by Mohammadpur with 91 drivers (23.7%). Other locations are Gabtoli (7.0%), Sadarghat (6.3%), Badda (5.7%), and Uttara/Abdullahpur (4.7%) Jatrabari and Sayedabad (4.2%), Banani (1.3%), Gulshan (3.1%), and Basabo (2.6%) have the smallest shares of respondents. This distribution emphasizes

es significant variation in the availability of informal sector transport drivers across Dhaka, which may relate to differences in population density, economic activity, and transportation demand. This geographic diversity is crucial for capturing varied perspectives on climate change and 'just transition.'

Data in Table-3.2 show that the study ensured a diverse representation of the workers of informal transport types, reflecting the variety

<i>Type of transport</i>	<i>No. of worker</i>	<i>%</i>
Paddle Rickshaw	64	16.7
Battery Rickshaw	63	16.4
Bus Driver	46	12.0
Bus Conductor	50	13.0
Leguna Driver	32	8.3
Uber CNG	64	16.7
Uber Motorcycle	65	16.9
Total	384	100.0

of services operating across Dhaka City. Among the types Uber (Motorcycle) 65 drivers, Uber (CNG) and Paddle Rickshaw 64 drivers each, Battery Rickshaw drivers 63, Bus Conductors 50, Bus Drivers 46, Leguna drivers 32 drivers, accounting for 8.3% of the total sample. This distribution demonstrates the diversity in Dhaka's informal transport sector, which plays a critical role in urban mobility. It also suggests varying levels of exposure and adaptability to climate change challenges across transport types.

3.1.2 Socio-economic characteristics of the transport workers

Socio-economic characteristics of transport workers in Dhaka City have been presented in Table-3.3. The analysis is based on data collected from 384 respondents and highlights various demographic, educational, housing, and income factors affecting the workers.

Age distribution: The majority of transport workers are between 20 and 49 years old, with 31% aged 20–29 and 32.3% aged 30–39. The mean age is 36.2 years, with a standard deviation of 10.86, indicating a moderately diverse age range. The minimum age is 18 years, while the maximum is 70 years, highlighting the engagement of both young and elderly individuals in the sector.

Marital status: Majority (86.2%) of transport workers are married, indicating that most have familial responsibilities. Only 13.8% are unmarried, reflecting limited participation of single individuals in this sector.

Educational status: The transport workers have an average of 6.2 years of schooling, with a standard deviation of 4.30. As seen in Table-3, a significant proportion (17.7%) has minimal or no education. The highest 37.8% of transport workers have secondary level education, which is closely followed by primary education (32.0%). Only 12.5% possess graduate-level education or higher (Table-3.3).

Residential status: Majority (84.1%) of the transport workers live in Dhaka permanently, either in their own or in rental house, indicating a stable workforce. Only 15.9% of workers are temporary residents, possibly commuting from nearby districts. As seen in

Table-3.3: Socio-economic characteristics of transport workers in Dhaka City			
Characteristics	Categories	%	Descriptive statistics
Age (year) of (N=384)	20-29	31.0	Mean = 36.2 Min. = 18 Max. = 70 S.D. = 10.86
	30-39	32.3	
	40-49	23.7	
	50-60	13.0	
Marital status (N = 384)	Unmarried	13.8	-
	Married	86.2	
Educational status (school year) (N=384)	No education (0)	17.7	Mean = 6.2 Min. = 0 Max. = 20 S.D. = 4.30
	Primary (1-5)	32.0	
	Secondary (6-12)	37.8	
	Graduate (12+)	12.5	
Whether living in Dhaka permanently (N = 384)	Yes	84.1	-
	No	15.9	
Ownership of the present home (N = 384)	Self	10.2	-
	Rent	89.8	
Monthly house rent (Taka) (N = 290)	Up to 4000	19.0	Mean = 6261.7 Min. = 1000 Max. = 22000 S.D. = 3246.7
	4000-8000	53.4	
	8000 & more	27.6	

Table-3.3, most workers (89.8%) rent their homes, while only 10.2% own their residence. Monthly house rent averages 6,261.7 Taka, with a wide variation (standard deviation = 3,246.7 Taka). More than half of transport workers (53.4%) pay between 4,000–8,000 Taka, reflecting significant housing cost burdens (Table-3.3).

Transport workers not living in Dhaka City permanently come from various divisions including Dhaka 33.3%, Mymensingh (25.9%) and Rangpur (18.5%). Lesser contributions are seen from Chottogram, Khulna, Barisal, and Rajshahi also. Among those living in Dhaka City

temporarily, half (50%) is living in mess, 36.7% stay in garages or vehicles, highlighting precarious living conditions, and another 13.3% living in sub-let room Table-3.3).

Family income and economic solvency: Monthly family income of the transport workers of Dhaka City averages 26,583.7 Taka, with significant variation (standard deviation = 13,699.37 Taka). More than one-fourth (27.7%) earn up to 20,000 Taka, while 36.4% earn more than 30,000 Taka. Despite income levels, 41.9% of families report a deficit in economic solvency, while 38.7% balance their income and expenditure (Table-3.3).

Findings reveal that most transport workers of Dhaka City are in their economically active years but face challenges such as low educational attainment and precarious housing, limiting opportunities for upward mobility. The prevalence of rental housing and non-residential living arrangements (e.g., garages) suggests inadequate housing options for low-income transport workers in Dhaka. High living costs and a large proportion of families facing financial deficits indicate that many transport workers struggle to achieve economic stability. A significant portion of the workforce originates from outside Dhaka, showing the city's pull as an economic

Table-3.3: Socio-economic characteristics of transport workers in Dhaka City			
Permanent Division of the Driver (N = 27)	Dhaka	33.3	-
	Chottogram	3.7	
	Khulna	3.7	
	Rajshahi	11.1	
	Barisal	3.7	
	Rangpur	18.5	
	Mymensingh	25.9	
Place of stay in Dhaka (N = 61)	Garage/Car	36.7	-
	Mess	50.0	
	Sub-let Room	13.3	
Whether pay for residence (N = 61)	No	26.2	-
	Yes	73.8	
Monthly Family Income (Taka)	Up to 20000	27.7	Mean = 26583.7 Min. = 1500 Max. = 100000 S.D. = 13699.37
	20000-30000	35.9	
	30000+	36.4	
Economic solvency of the family	Surplus	19.4	-
	Balanced	38.7	
	Deficit	41.9	

3.2 Occupational profile of the transport workers

3.2.1 Duration of involvement in present occupation

Table-3.4 presents the distribution of transport workers by the number of years they have been involved in their current occupation. The mean duration is 11.8 years, with a wide range from 0.1 to 40 years. Notably, 29.4% of workers have less than five years of experience. While 66.7% have worked in their occupation for 15 years or less, and 78% have worked 20 years or less. A considerable proportion (14.1%) have been working for over 25 years. Findings highlight a diverse workforce in terms of tenure, with a substantial proportion having long-term engagement in the sector.

Table-3.4: Duration (year) of involvement in present occupation		
Duration (year)	%	Cum. %
<5	29.4	29.4
5-10	22.7	52.1
10-15	14.6	66.7
15-20	11.2	77.9
20-25	8.1	85.9
25 & more	14.1	100.0
Total (N=384)	100.0	-
Mean = 11.8 Min. = 0.1 Max. = 40		

3.2.2 Nature of engagement in present occupation

As shown in Table-3.5, 91.9% of transport workers are engaged full-time in their present occupation. Only a small proportion (5.0%) work part-time, with minimal representation in seasonal (1.3%) or irregular/optional (1.8%) roles. This underscores the predominance of full-time work, reflecting the sector's role as a primary source of livelihood.

Table-3.5: Nature of engagement in present occupation	
Engagement nature	%
Full-time	91.9
Part-time	5.0
Seasonal	1.3
Irregular/Optional	1.8
Total (N=3.84)	100.0

3.2.3 Hours of work of the transport workers of Dhaka City

Summary of the work hours of transport workers in Dhaka City's informal sector by the type of transport have been presented in Table-3.6. The Table provides insights into the average workdays per week, total work hours per week, and average work hours per day. Most transport workers work 6–7 days per week, indicating a heavy work schedule with limited rest. Bus drivers and conductors work fewer days (4), suggesting that their work may involve longer, more intense shifts. In fact, they work as long as 18 hours in a day on working days (3-4 days in a week) and take rest for the rest of the days (Table-3.6).

Table-3.6: Average workdays and total work hours in a week, and average work hours per day informal transport sector workers by type of transport			
Type of Driver	Days of work in a week	Total work hours in a week	Average work hours per day
Paddle Rickshaw	6	70	10
Battery Rickshaw	7	71	10
Bus Driver	4	70	10
Bus Conductor	4	67	10
Leguna Driver	6	78	11
Uber CNG	7	72	10
Uber Motorcycle	6	66	9
Total	6	70	10

As seen, total weekly hours vary widely, from a minimum of 7 hours to a maximum of 126 hours. Workers like Leguna drivers report the highest average weekly hours (78 hours), reflecting a grueling workload.

Across all transport types, the average is 10 hours per day, a figure that far exceeds the standard 8-hour workday. The Leguna driver group records the longest average daily hours (11 hours), while Uber motorcycle drivers report slightly fewer hours (9 hours per day).

If transport of the workers is considered, Paddle rickshaw workers are close to the overall average with 6 workdays, 70 weekly hours, and 10 daily hours. Battery rickshaw and Uber CNG drivers work 7 days a week but maintain relatively average daily hours (10 hours). Workers like bus drivers and conductors maintain similar daily hours despite fewer working days, highlighting a more intense workload during their active days as mentioned above. The minimum weekly hours (7 hours) reflect part-time or irregular participation in the sector. The maximum daily hours (18 hours) suggest extreme cases of labor exploitation, poor working conditions, or survival-driven overwork.

Findings reflect the precarious conditions of informal transport workers in Dhaka. The long hours, limited rest, and exposure to climate risks demand urgent policy interventions to ensure a sustainable and fair working environment. Developing a policy brief and a trade union position paper, as outlined in the study, would be crucial in addressing these challenges and advocating for the rights and well-being of these workers.

3.2.4 Ownership of transport of transport workers

Despite slightly less than one-fourth (23%) of transport workers found own the transport they operate; the fact is almost all 'uber motorcycle' operators (98.5%) and more than one-fourth of 'battery rickshaw' operators have contributed to this proportion (Table-3.7).

In fact, the proportions of operators own their transport is negligible, 0 to 4.7 percent only. The majority of 'paddle rickshaw' (95.3%) and 'leguna drivers' (96.9%) lease their vehicles, mostly on monthly basis. 'Bus workers' (driver & conductor) exhibit significant reliance on salaried positions (34.8% and 12.0%, respectively). Findings clearly show that monthly leasing dominates as the primary form of ownership of transports workers operate. across most worker groups, potentially limiting their autonomy and financial returns.

Type of Driver	Ownership of the transport			Total
	Self	Lease	Salaried	
Paddle Rickshaw	4.7%	95.3%	0.0%	100.0% (64*)
Battery Rickshaw	27.0%	73.0%	0.0%	100.0% (63*)
Bus Driver	4.3%	60.9%	34.8%	100.0% (46)*
Bus Conductor	0.0%	88.0%	12.0%	100.0% (50*)
Leguna Driver	3.1%	96.9%	0.0%	100.0% (32*)
Uber CNG	1.6%	98.4%	0.0%	100.0% (63*)
Uber Motorcycle	98.5%	1.5%	0.0%	100.0% (65*)
Total	23.0% (88*)	71.3% (273*)	5.7% (22*)	100.0% (383**)
* No. of worker. ** 1 No response				

3.2.5 Income of transport workers

On average, transport workers of Dhaka City earn a modest BDT 758/-. The standard deviation of 289.2 indicates a significant variability among different types of transport workers (Table-3.8). Bus drivers earn the highest average daily income (BDT 1,134.8), while paddle rickshaw drivers earn the lowest (BDT 612.8). The income of battery rickshaw and bus conductors are also considerably lower BDT 666.7 and 689.0 respectively.

Type of transport	Mean	S. D.
Paddle Rickshaw	612.8	149.4
Battery Rickshaw	666.7	198.4
Bus Driver	1134.8	365.1
Bus Conductor	689.0	290.2
Leguna Driver	725.0	246.3
Uber CNG	757.7	163.5
Uber Motorcycle	794.8	298.0
Total	758.4	289.2

As shown in Table-3.9, salaried transport workers have the highest average daily income (BDT 1,009/-, while leased workers earn the least (BDT 726/-). Self-owners earn an average of BDT 797/- daily, indicating moderate financial benefits compared to other ownership types.

Ownership	Mean	S.D.
Self	797.0	299.260
Lease	726.0	256.164
Other (Salaried)	1009.0	463.844
Total	758.0	289.239

Findings reveals the extensive labor demands and economic disparities among transport workers of informal sector in Dhaka City. While some roles, such as bus drivers, yield higher incomes, others face limited earnings and reliance on leasing arrangements. These findings highlight the need for targeted interventions to ensure fair wages, manageable workloads, and sustainable livelihoods for these workers in the context of climate change and a just transition framework.

3.4 Awareness among transport workers about the impacts of climate change in Dhaka City

Ten indicators about key areas adversely impacted by climate change in Dhaka City were used to assess the awareness of the transport workers (Table-3.10). Respondent transport workers were asked to answer one of the five alternative answers: "increased a lot," "slightly increased," "remains same," "slightly decreased," and "decreased a lot". In the analysis, answers were quantified by scoring -2, -1, 0, +1, and +2 respectively indicating negative to positive impacts of climate change. By this way the total score for a respondent could be +20, with -20 indicating maximum adverse impacts, as such, maximum awareness of the transport workers regarding the adverse impacts of climate change and +20 indicate maximum favorable impacts of climate change, as such, totally unaware of the adverse impacts of climate change. The total score obtained for each respondent, then, divided into four categories as: Aware of very high climate hazards (score: -20 to -11), Aware of high climate hazards (Score: -10 to -6), Aware of moderate climate hazards

(Score: -5 to -1), and not aware of any climate hazard (Score: 1-7). The results are presented in Table-3.10 and Table-3.11.

3.4.1 Awareness levels of transport workers about climate hazards

The awareness of transport workers about climate change hazards is summarized based on the categorized scores (Table-3.10). If overall awareness level is considered, about 52.9% of all respondents are "Aware of high climate hazards," and only 11.8% are in the "Aware of very high climate hazards" category. This reflects a general understanding of climate change but suggests room for improvement in recognizing its intensity and multifaceted impacts.

If the type of transport workers operate is considered, the lowest mean score of -8.1, Uber Motorcycle drivers demonstrate the highest awareness of adverse climate impacts. A significant majority (24.6%) fall into the category "Aware of very high climate hazards," while 52.3% are "Aware of high climate hazards." These workers may have better access to information via digital platforms or community discussions, given their reliance on app-based services.

Bus Drivers and Uber CNG Drivers have relatively high awareness, with mean scores of -7.5. Bus drivers have a notably high proportion (19.6%) in the "Aware of very high adverse impact" category. This may stem from their extended exposure to environmental challenges like air pollution and heat during long working hours on the road.

Leguna and Paddle Rickshaw Drivers with mean scores of -4.5 (Leguna) and -5.3 (Paddle Rickshaw), these groups show comparatively lower awareness. A significant portion of these workers fall into the "Aware of moderate adverse impact" category, suggesting limited understanding of how climate change influences their work or environment. This could be due to limited access to education and information resources.

Table-3.10: Awareness among transport workers about climate hazards in Dhaka City by transport type

Type of Driver	Awareness of the transport workers about climate hazards				Total	Mean score
	Aware of very high climate hazards (score: -20 to -11)	Aware of high climate hazards (Score: -10 to -6)	Aware of moderate climate hazards (Score: -5 to -1)	Not aware of any climate hazards (Score: 1-7)		
Paddle Rickshaw	3.1%	46.9%	43.8%	6.3%	100.0% (64)	-5.3
Battery Rickshaw	14.3%	41.3%	39.7%	4.8%	100.0% (63)	-6.1
Bus Driver	19.6%	58.7%	19.6%	2.2%	100.0% (46)	-7.5
Bus Conductor	2.0%	56.0%	38.0%	4.0%	100.0% (50)	-5.7
Leguna Driver	3.2%	32.3%	61.3%	3.2%	100.0% (31)	-4.5
Uber CNG	11.1%	74.6%	14.3%	0.0%	100.0% (63)	-7.5
Uber Motorcycle	24.6%	52.3%	21.5%	1.5%	100.0% (65)	-8.1
Total	11.8% (45*)	52.9% (202*)	32.2% (123*)	3.1% (12*)	100.0% (382**)	-6.5

* No. of worker. ** 2 no responses

3.4.2 Area-wise awareness (key indicators)

Transport workers' awareness of specific climate-related phenomena varied significantly across indicators. These are described below (Table-3.11). It is worth mention that the score for each indicator falls between +2, with -2 indicates maximum adverse impacts while +2 indicates maximum favorable impacts of climate change.

Type of Driver	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	Total
Temperature in summer season	-1.91	-1.86	-1.85	-1.70	-1.69	-1.75	-1.86	-1.81
Duration of summer season	-1.77	-1.52	-1.85	-1.78	-1.44	-1.92	-1.78	-1.74
Extent of air pollution or dust in air	-1.11	-1.63	-1.48	-1.36	-1.78	-1.87	-1.95	-1.60
Duration of winter season	-.89	-.94	-1.37	-1.10	-.91	-.94	-1.06	-1.02
Duration of rainy season	-.78	.05	-1.37	-.76	-.94	-.95	-.60	-.72
Extent of waterlogging/flood	-.08	-.83	.59	-.34	.34	-1.54	-1.03	-.52
Amount of rain during rainy season	-.50	.16	-1.54	-1.02	-.63	-.48	.03	-.50
Number of thunderbolt	.36	-.02	-.13	.92	.72	.43	-.75	.16
Number of cyclone/tornado	.34	.08	1.54	1.32	.81	.70	-.02	.61
Temperature during winter season	1.03	.44	.00	.14	1.03	.86	.89	.64

Note: Range of score ± 2 , with -2 indicates maximum awareness about adverse impacts while +2 indicates maximum awareness about favorable impacts of climate change.

Summer season (temperature and duration): Scores for temperature during summer range from -1.69 (Leguna Drivers) to -1.91 (Paddle Rickshaw Drivers), indicating wide-spread recognition of increased temperatures. Awareness about the prolonged duration of summer is similarly high, with mean scores between -1.44 (Leguna Drivers) and -1.92 (Uber CNG Drivers). These findings highlight the acute experience of heat stress among workers exposed to outdoor environments.

Air pollution and dust: The scores for awareness about air pollution, among workers of different transport operators, range from -1.11 (Paddle Rickshaw Drivers) to -1.95 (Uber Motorcycle Drivers). Higher awareness among app-based drivers may result from better media exposure and personal experience with respiratory issues.

Rainfall and waterlogging: Awareness about waterlogging showed mixed results, with scores ranging from +0.59 (Bus Drivers) to -1.54 (Uber CNG Drivers). Similarly, scores for the amount of rain during the rainy season were near neutral or even positive, indicating confusion or inconsistent perceptions among workers. This variability suggests the need for clearer information about how climate change alters rainfall patterns and urban flooding.

Thunderstorms and cyclones: Perceptions of increased thunderbolt frequency were generally low, with some positive scores (+0.92 for Bus Conductors). Cyclones were perceived as slightly more frequent, but awareness levels still varied. For instance, Bus Drivers had the highest mean score (+1.54), showing a lower awareness compared to Uber drivers (-0.02 for Motorcycles).

Winter season: Awareness of temperature changes in winter was low compared to

summer, with mean scores ranging from +0.00 (Bus Drivers) to +1.03 (Leguna and Paddle Rickshaw Drivers). This suggests that winter changes are less noticeable or less impactful on the daily lives of these workers compared to summer conditions.

Findings show that transport workers who rely on technology or app-based platforms (Uber CNG and Motorcycles) generally show better awareness, potentially due to higher education levels or exposure to climate-related content. While traditional workers (e.g., Rickshaw and Leguna drivers) may have limited understanding due to socioeconomic barriers. Heat stress and air pollution are widely acknowledged, reflecting their immediate and visible impacts on workers' health and productivity. In contrast, less visible or episodic phenomena like cyclones or thunderstorms are less understood, leading to inconsistencies in awareness scores. Workers with better access to education and information (e.g., Uber drivers) tend to have higher awareness, while manual laborers or those in traditional jobs (e.g., Rickshaw drivers) lag behind.

3.5 Impact of climate change on work and livelihood of transport workers in Dhaka City

Sixteen indicators about key areas of work and livelihood were used to assess the adverse effects of climate change on transport workers (Table-3.12). Respondent transport workers were asked to answer one of the five alternative answers: "increased a lot," "slightly increased," "remains same," "slightly decreased," and "decreased a lot". Obtained answers were quantified by scoring -2, -1, 0, +1, and +2 respectively indicating negative to positive impacts of climate change. By this way, the total score for a respondent could be +32(16 X +2) with -32 indicating maximum adverse impact of climate change on the work and livelihood of transport workers and +32 indicating maximum favorable impact. It is evident that, overall, all transport workers mentioned adverse effects of climate change, i.e., scored negative, on their work and livelihood. We categorized the total score into four categories as: Impacted at very high level (Score: <22), Impacted at high level (Score:-21 to -15), Impacted at medium level, (Score: -14 to -8), Impacted moderately (Score: -7 to -1). The results are presented in Table-3.12 & Table-3.13.

Table-3.12: Impact of climate change on the work and livelihood of the transport workers in Dhaka City by transport type

Impacted at very high level (Score: <22)	Impacted level				Total	Mean
	Impacted at very high level (Score: <22)	Impacted at high level (Score:-21 to -15)	Impacted at medium level (Score: -14 to -8)	Impacted moderately (Score: -7 to -1)		
Paddle Rickshaw	0.0%	48.4%	42.2%	9.4%	100.0% (64)	-13.2
Battery Rickshaw	3.2%	57.1%	27.0%	12.7%	100.0% (63)	-14.8
Bus Driver	10.9%	60.9%	26.1%	2.2%	100.0% (46)	-16.2
Bus Conductor	14.0%	44.0%	36.0%	6.0%	100.0% (50)	-15.4
Leguna Driver	0.0%	28.1%	65.6%	6.3%	100.0% (32)	-12.5
Uber CNG	57.1%	27.0%	11.1%	4.8%	100.0% (63)	-21.4
Uber Motorcycle	26.2%	36.9%	30.8%	6.2%	100.0% (65)	-17.0
Total	17.5% (67*)	43.6% (212*)	31.9% (77*)	7.0% (27*)	100.0% (383*)	-16.0

* Figures in parentheses indicate no. of worker.

3.5.1 Severity of impact of climate change among on work and Livelihood of transport workers

The results presented in Table-3.12 indicate that all groups experienced a negative impact on their work and livelihood, with varying levels of severity. The total mean score across all groups is -16.0, reflecting a high adverse impact of climate change on work and livelihood of transport workers. Of the workers, 17.5% fall in "Impacted at a Very High Level," highlighting the severe vulnerabilities faced by certain transport worker groups. Impacted at very high level (Score: < -22): Uber CNG drivers (57.1%) dominate this category, with a mean score of -21.4, the highest adverse impact across all groups. This suggests that app-based drivers face severe challenges, potentially because of higher living costs and maintenance expenses associated with their operations.

Table-3.13: Area wise mean impact score of climate change on the work and livelihood of the transport workers in Dhaka City by transport type

Type of transport	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	Total
Extent of living cost	-1.98	-1.83	-1.96	-1.78	-2.00	-1.94	-1.95	-1.92
Sufferings in habitat during summer heat	-1.42	-1.87	-1.83	-1.76	-1.50	-1.81	-1.60	-1.69
Cost of food during work	-1.94	-.97	-1.85	-1.80	-1.97	-1.78	-1.48	-1.65
Cost of Vehicle Maintenance	-1.47	-1.63	-1.50	-1.74	-1.03	-1.73	-1.63	-1.57
Extent of Weariness in due to acute hot/rain/storm, etc.	-1.61	-1.21	-1.57	-1.64	-1.38	-1.67	-1.65	-1.54
Amount of Treatment Cost	-1.42	-1.22	-1.78	-1.24	-1.47	-1.75	-1.62	-1.50
Trouble in transportation due to flood/waterlog	-.98	-1.43	-1.65	-1.18	-1.06	-1.56	-1.03	-1.27
Extent of Traffic Jam or Road Block	-.80	-1.51	-1.28	-1.04	-.72	-1.60	-1.11	-1.18
Number of Passenger	-.84	-.06	-1.41	-1.54	-1.03	-1.48	-.72	-.97
Extent of illness during work	-.75	-.71	-.91	-.60	-.47	-1.35	-1.05	-.87
Income from Occupation	-.50	-.29	-1.30	-1.14	-1.06	-1.16	-.54	-.81
Extent of sickness of the family members	-.41	-.86	-.57	-.50	-.50	-1.38	-.98	-.78
State of Employment Security	-.22	-1.05	-.15	-.40	-.38	-1.29	-.72	-.64
Number of Road Accident	.13	-.48	.17	.34	.47	-.40	-.83	-.16
State of Daily Working Hours	.13	.35	-.07	-.28	.94	-1.06	-.32	-.12
Sufferings in habitat during winter	.92	.03	1.41	.92	.69	.60	.23	.64

Note: Range of score ± 2 , with -2 indicates maximum adverse impacts while +2 indicates favorable impacts of climate change.

Impacted at high level (Score: -21 to -15): Bus drivers (60.9%) and Battery Rickshaw drivers (57.1%) show significant representation in this category. These workers often endure long working hours and are heavily exposed to adverse weather conditions, contributing to their higher impact scores.

Impacted at medium level (Score: -14 to -8): The majority of Leguna drivers (65.6%) and Paddle Rickshaw drivers (42.2%) fall into this category. These workers experience moderate levels of climate-related challenges due to the nature of their work, which involves shorter distances or less mechanical dependency.

Impacted moderately (Score: -7 to -1): A smaller proportion of workers, such as Paddle Rickshaw drivers (9.4%) and Battery Rickshaw drivers (12.7%), reported relatively lower adverse impacts, suggesting slightly better adaptability or resilience to climate effects.

3.5.2 Area-wise impact of climate change on work and livelihood of transport workers

Data in Table-4 presents how climate change impacts specific areas of work and livelihood for transport workers across different transport types. It is worth mention that the maximum score for an individual indicator could be -2.00 indicating severe impact.

Extent of living cost: Scores range from -1.83 (Battery Rickshaw) to -2.00 (Leguna drivers), with a total mean of -1.92. Rising living costs significantly affect all groups, with the worst impact observed among Leguna drivers. This reflects the broader economic pressures of urban inflation exacerbated by climate change.

Sufferings in habitat during summer heat: Scores range from -1.42 (Paddle Rickshaw) to -1.87 (Battery Rickshaw), with a total mean of -1.69. Heat stress is a significant challenge for transport workers who spend extended hours outdoors.

Cost of food during work: With a total mean of -1.65, the increasing cost of food affects all groups, especially Paddle Rickshaw drivers (-1.94) and Leguna drivers (-1.97). This indicates the compounding effects of inflation and disrupted food supply chains due to climate change.

Vehicle maintenance cost: The total mean score is -1.57, reflecting the increased wear and tear caused by extreme weather. Bus conductors (-1.74) and Uber CNG drivers (-1.73) experience the highest impact, likely due to heavy dependence on motorized vehicles.

Treatment costs: Scores indicate rising treatment costs across all groups, with a total mean of -1.50. Uber CNG drivers (-1.75) face the worst impact, potentially due to longer exposure to polluted environments and extreme weather.

Income from occupation: Despite significant challenges, the impact on income appears moderate, with a total mean of -0.81. However, Bus drivers (-1.30) and Bus conductors (-1.14) reported higher adverse impacts, possibly due to seasonal disruptions like water-logging or reduced passenger demand.

State of employment security: Scores indicate moderate impact, with a total mean of -0.64. Uber CNG drivers (-1.29) reported higher insecurity, likely due to fluctuating demand and operational costs.

Number of road accidents: The total mean score is -0.16, with relatively neutral or mixed perceptions. This indicates that climate-related accidents are not perceived as a primary issue compared to other indicators.

Findings show that Living costs, summer heat, and food expenses are the most adversely affected areas, directly impacting workers' livelihoods. Health-related costs and vehicle maintenance also contribute significantly to the overall negative impact. Among the different transport workers, Uber CNG drivers experience the highest overall adverse

impact due to rising living costs, maintenance expenses, and exposure to extreme weather. Bus drivers and Battery Rickshaw drivers also report severe impacts, reflecting their exposure to traffic congestion, heat stress, and maintenance challenges. Leguna and paddle rickshaw drivers report relatively lower adverse impacts, likely due to the localized nature of their work and limited dependency on mechanized systems. This could be attributed to their lower level of education

3.6 Occupational mobility of the transport workers

The occupational mobility of transport workers in Dhaka city provides valuable insights into how informal sector workers respond to economic, social, and environmental challenges. Below is a detailed analysis of the findings from the four tables.

3.6.1 Extent of occupational change

Data reveals significant occupational mobility among transport workers of Dhaka City. Overall, 51% of workers reported changing their occupation (Table-3.14). Workers in Battery Rickshaw (76.2%) and Uber Motorcycle (64.6%) sectors show the highest rates of occupational change, indicating higher dynamism or instability in these jobs. In contrast, Bus Drivers (15.2%) exhibit much lower occupational mobility, suggesting relatively greater stability in this role. Bus Conductors (36%), Leguna Drivers (43.8%), and Uber CNG (40.6%) fall between these extremes, reflecting moderate occupational change rates.

Findings show that jobs with higher occupational mobility often indicate vulnerability due to economic instability, health risks, or other push factors. The lower mobility of bus drivers may stem from the specialized skill set required for the role or fewer alternative opportunities for skilled drivers.

Transport type	Occupation change		Total
	No	Yes	
Paddle Rickshaw	35.9%	64.1%	100.0% (64)
Battery Rickshaw	23.8%	76.2%	100.0% (63)
Bus Driver	84.8%	15.2%	100.0% (46)
Bus Conductor	64.0%	36.0%	100.0% (50)
Leguna Driver	56.3%	43.8%	100.0% (32)
Uber CNG	59.4%	40.6%	100.0% (64)
Uber Motorcycle	35.4%	64.6%	100.0% (65)
Total	49.0% (188)	51.0% (196)	100.0% (384)

Note: Figures in parentheses indicate no. of worker.

3.6.2 Place of previous occupation or work

A significant majority of workers (65.2%) reported their previous work location as Dhaka, emphasizing the city's role as a hub for employment opportunities (Table-3.15). Workers from rural areas (23.2%, particularly villages) migrated to Dhaka, primarily seeking better livelihoods.

Workers in Battery Rickshaw (64.6%), Bus Driver (71.4%), and Uber Motorcycle (83.7%) primarily reported Dhaka as their previous workplace. In contrast, Paddle Rickshaw (58.5%) workers predominantly came from villages, possibly due to the lower skill threshold required for this occupation.

Table-3.15: Place of previous work				
Transport type	Place of previous work			Total
	Village	Dhaka	Gazipur	
Paddle Rickshaw	58.5%	34.1%	7.3%	100.0% (41)
Battery Rickshaw	20.8%	64.6%	14.6%	100.0% (48)
Bus Driver	28.6%	71.4%	0.0%	100.0% (7)
Bus Conductor	11.1%	77.8%	11.1%	100.0% (18)
Leguna Driver	6.7%	73.3%	20.0%	100.0% (15)
Uber CNG	15.4%	69.2%	15.4%	100.0% (26)
Uber Motorcycle	7.0%	83.7%	9.3%	100.0% (43)
Total	23.2% (46)	65.2% (129)	11.6% (23)	100.0% (198)

Note: Figures in parentheses indicate no. of worker.

Urbanization and rural-to-urban migration are critical drivers of occupational mobility, reflecting the informal sector's capacity to absorb surplus labor from rural areas. Workers in modern or technology-driven roles (e.g., Uber Motorcycle) are predominantly from urban settings, suggesting an urban-biased access to these opportunities.

3.6.3 Previous occupation of transport workers

The majority of workers transitioned from diverse backgrounds, reflecting the informal sector's absorptive capacity. A significant proportion (17.2%) transitioned from small-scale business or petty business, possibly due to business failures or instability (Table-3.16). Day Laborers are prominent among Paddle Rickshaw (29.3%) and Leguna

Table-3.16: Previous occupation of the transport workers								
Previous occupation	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	Total
Petty Business	19.50%	18.80%	28.60%	22.20%	0.00%	0.00%	25.60%	17.20% (34)
Day Labor	29.30%	2.10%	0.00%	5.60%	46.70%	3.80%	0.00%	11.10% (22)
Garment worker	7.30%	12.50%	14.30%	5.60%	13.30%	15.40%	4.70%	9.60% (19)
Job Holder	2.40%	12.50%	0.00%	16.70%	6.70%	11.50%	46.50%	17.20% (34)
Weaver, Cook, Rickshaw puller, Tailor, barbar, etc.	36.60%	18.80%	42.90%	16.70%	0.00%	26.90%	2.30%	19.20% (38)
Workshop mechanic	0.00%	2.10%	14.30%	27.80%	20.00%	11.50%	7.00%	8.10% (16)
Driver (Car/CNG/ Leguna/ Truck)	4.90%	22.90%	0.00%	5.60%	13.30%	26.90%	7.00%	13.10% (26)
Photographer	0.00%	10.40%	0.00%	0.00%	0.00%	3.80%	7.00%	4.50% (9)
Total	100.00% (41)	100.00% (48)	100.00% (7)	100.00% (18)	100.00% (15)	100.00% (26)	100.00% (43)	100.00% (198)

* Figures in parentheses indicate no. of worker.

Drivers (46.7%), indicating movement from physically demanding roles. Garment workers representing 9.6% overall, this group highlights the linkage between the garment sector and transport roles, often due to layoffs or low wages in the garment industry. Finally, a notable portion transitioned from similar roles, emphasizing skill transferability in the transport sector.

Findings reveal that the transition from unstable or low-income occupations to transport work indicates a coping mechanism for economic survival. Variations in previous occupations suggest the informal transport sector accommodates workers with diverse skill sets, particularly in times of economic distress.

3.6.4 Reasons for occupational change

Economic causes such as low salary/income (48.0%), lack of job security (14.6%), and job loss (14.1%) dominate as reasons for occupational change. Loss in business (10.1%) underscores the vulnerability of self-employed individuals in the informal economy (Table-3.17). Environmental causes like natural floods and drought (6.6%) and extreme heat (6.6%) highlight the impact of climate change on rural livelihoods. High health risk (5.5%) and excessive laboriousness (6.1%) also contributed to mobility, reflecting the physical toll of certain occupations.

Economic instability is the primary driver of occupational mobility, exacerbated by climate-related challenges. The informal transport sector often serves as a fallback option for workers displaced by environmental or economic factors, though it presents its own set of vulnerabilities.

Table-3.17: Reasons of occupational change (Multiple response)	
Reasons of occupation change	% (N=198)
Low salary / low income	48.0%
Lack of work or job security	14.6%
Job loss / No work	14.1%
Loss in business	10.1%
Natural calamities (flood, drought, cyclone)	7.6%
Extreme hot temperature	6.6%
Excessive laborious	6.1%
High health risk	5.5%
Getting into debt to others	2.5%
Accident	2.0%
Not enjoy working under someone	2.0%
Extreme work pressure	1.5%
Shut down the office	1.0%
Others	1.0%

The findings highlight the precarious nature of employment in the informal sector and its vulnerability to economic, social, and environmental disruptions. The transport sector, while offering short-term employment, does not guarantee stability or security. Findings also provide a foundation for developing a policy brief and a trade union position paper, advocating for a just transition framework for informal sector workers.

3.7 Measures taken by the transport workers to protect against the adverse effects of climate change

The transportation sector, particularly the informal economy involving rickshaw pullers, bus operators, and platform-based transport workers, is highly vulnerable to the impacts

of climate change. In Dhaka city, transport workers employ various strategies to cope with climate-related challenges, including heat waves, heavy rainfall, and flooding. This chapter explores the adaptive measures employed by transport workers to mitigate the adverse effects of climate hazards and provides insights into the strategies, costs, and challenges they face.

3.7.1 Measures taken against impacts of climate change

The overall rate of taking measures against climate change (65.9%) indicates a moderate level of awareness and adaptation across transport workers (Table-3.18). Uber CNG and Motorcycle workers have a

high percentage of taking measures (93.8% and 89.2%, respectively). This could be attributed to their relatively better earnings and exposure to technology and app-based systems that demand adherence to service standards. Battery Rickshaw workers also exhibit a strong tendency to adapt (82.5%), reflecting their

reliance on mechanized systems prone to climate-induced damage. On the other hand, Bus conductors (28%) and Leguna drivers (37.5%) show a much lower adaptation rate, potentially due to limited resources or lack of awareness. This makes them highly vulnerable to climate-induced disruptions.

3.7.2 Specific measures taken to protect from climate hazards

Behavioral changes: Reducing work hours/trips is the most frequently used adaptation strategy (73.9%), possibly reflecting workers' attempts to balance productivity and health during adverse weather conditions. Frequent rest adopted by 43.5%, it highlights a practical response to physical strain caused by extreme weather. Uber Motorcycle workers are

Table-3.18: Measures taken against impacts of climate change

Transport type	Measures taken		Total
	Not taken	Taken	
Paddle Rickshaw	50.0%	50.0%	100.0% (64)
Battery Rickshaw	17.5%	82.5%	100.0% (63)
Bus Driver	45.7%	54.3%	100.0% (46)
Bus Conductor	72.0%	28.0%	100.0% (50)
Leguna Driver	62.5%	37.5%	100.0% (32)
Uber CNG	6.3%	93.8%	100.0% (64)
Uber Motorcycle	10.8%	89.2%	100.0% (65)
Total	34.1% (131)	65.9% (253)	100.0% (384)

Table-3.19: Measures taken by the transport workers to protect from climate hazards (Multiple response)

Measures taken to protect from climate hazards	Transport type							Total (N=253)
	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	
Change work time in the day	14.6%	15.6%	6.3%	2.1%	4.2%	27.1%	30.2%	37.9%
Reduce work hour / trip	15.0%	11.2%	11.2%	4.8%	4.3%	29.4%	24.1%	73.9%
Take rest frequently at job	23.6%	21.8%	0.0%	4.5%	7.3%	15.5%	27.3%	43.5%
Use protective gears (umbrella, dress, etc.)	5.2%	35.4%	0.0%	4.2%	0.0%	12.5%	42.7%	37.9%
Drink water/ juice frequently	0.0%	54.5%	18.2%	27.3%	0.0%	0.0%	0.0%	4.3%
Remains in house	0.0%	75.0%	0.0%	0.0%	0.0%	0.0%	25.0%	1.6%

particularly proactive in this regard. Change of work hours in the day is also widely adopted (37.9%), especially among Uber workers, indicating their flexibility in adjusting work patterns to avoid extreme weather conditions (Table-3.19).

Physical measures: The use of protective gears such as umbrellas, raincoats, and hats is variable. Uber workers lead in this category, likely due to better financial capacity to purchase such tools. Hydration (e.g., drinking water or juice) is less common (4.3%), suggesting a potential area for improvement through awareness campaigns.

3.7.3 Use and cost of protective equipment

Purchase of protective tools: A significant majority of transport workers (71.7%) purchase protective equipment, such as umbrellas, raincoats, and hats. Uber motorcycles (89.2%) and CNG drivers (87.5%) workers are the most likely to buy protective equipment, reflecting both their greater exposure to weather conditions and higher incomes (Table-3.20). The proportions of Battery Rickshaw Driver (77.8%), Leguna Driver (71.9%), Bus Driver 69.6%), and Paddle Rickshaw Drivers (67.2%) are also purchasing protective equipment in the face of climate hazards indicating very high rates of use of protective equipment.

Table-3.20: Whether buy protective equipment (umbrella, raincoat, hat, medicine) to face extreme weather

Transport type	Whether buy		Total
	No	Yes	
Paddle Rickshaw	32.8%	67.2%	100.0%
Battery Rickshaw	22.2%	77.8%	100.0%
Bus Driver	30.4%	69.6%	100.0%
Bus Conductor	66.0%	34.0%	100.0%
Leguna Driver	28.1%	71.9%	100.0%
Uber CNG	12.5%	87.5%	100.0%
Uber Motorcycle	10.8%	89.2%	100.0%
Total	28.3%	71.7%	100.0%

Types of protective equipment used: Raincoats are the most common (51.8%), particularly among Uber Motorcycle workers (87.9%). Medicine use (41.2%) is also prevalent, highlighting health-related challenges due to adverse conditions (Table-3.21).

Table-3.21: Protective equipment used to safeguard from adverse impact of climate change (Multiple response)

Protective equipment	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	Total (N=245)
Raincoat	62.8%	83.7%	0.0%	0.0%	17.4%	17.4%	87.9%	51.8%
Medicine	48.8%	20.4%	25.0%	35.3%	95.7%	52.2%	37.9%	41.2%
Saline water	32.6%	10.2%	68.8%	58.8%	73.9%	39.1%	15.5%	35.1%
Polythene/curtain	46.5%	53.1%	0.0%	0.0%	17.4%	8.7%	3.4%	22.0%
Cold water	16.3%	0.0%	78.1%	58.8%	4.3%	21.7%	3.4%	20.4%
Umbrella	2.3%	36.7%	12.5%	11.8%	21.7%	21.7%	24.1%	20.0%
Hat/ cap/ helmet	58.1%	28.6%	0.0%	0.0%	4.3%	8.7%	8.6%	19.2%
Gloves	0.0%	0.0%	0.0%	0.0%	0.0%	21.7%	25.9%	8.2%
Towel	30.2%	0.0%	0.0%	0.0%	13.0%	0.0%	1.7%	6.9%
Jacket/ chest rist	0.0%	0.0%	0.0%	0.0%	0.0%	13.0%	22.4%	6.5%
Other (Fruits, juice, food, dress, spectacles, etc.	0.0%	2.0%	6.3%	5.9%	0.0%	0.0%	0.0%	3.2%
Total	43	49	32	17	23	23	58	245

Items like gloves (8.2%) and jackets (6.5%) are rarely used, possibly due to their cost or lack of availability. Bus Conductors and Leguna Drivers show minimal use of protective tools, indicating a lack of resources or awareness.

Average annual cost: On average, transport workers spent approximately BDT 11872/- annually. The high standard deviation indicates wide variation among workers of different types of transport. Uber CNG workers spend the most on protective measures (BDT 40,276.19), indicating their capacity to invest in safety and comfort (Table-3.22).

Type of Driver	Paddle Rickshaw	Battery Rickshaw	Bus Driver	Bus Conductor	Leguna Driver	Uber CNG	Uber Motorcycle	Total
Mean	2216.28	2257.14	22371.88	15129.41	2586.96	40276.19	3520.69	11872.35
S.D.	1212.029	1753.211	15683.466	14427.914	949.308	44603.264	3131.154	23518.607

In contrast, Paddle Rickshaw and Battery Rickshaw workers spend significantly less (BDT ~2,200), highlighting financial constraints. These disparities underline the need for targeted financial support or subsidies to ensure equitable access to protective measures.

3.7.4 Vehicle modifications and associated costs

Changes in vehicle parts: Prolonged exposure to excessive heat and recurrent waterlogging or flooding leads to accelerated wear and tear of vehicle components, making frequent replacements or repairs unavoidable. These environmental stressors affect critical parts such as engines, brakes, tires, electrical systems, and structural elements, especially in vehicles operating in urban areas like Dhaka City. For instance, intense heat can cause overheating, damage to rubber components, and reduced efficiency of cooling systems, while waterlogging can lead to corrosion, damage to electrical wiring, and mechanical failures.

The cumulative cost of these repairs places a substantial financial burden on transport operators, particularly those in the informal sector with limited income and access to resources. Rickshaw pullers, bus drivers, and other small-scale operators often struggle to absorb these costs, which directly impact their livelihood. Without adequate support systems, such as subsidies for repairs, access to durable parts, or climate-resilient infrastructure, the economic strain continues to grow, jeopardizing their ability to sustain operations. This highlights the urgent need for targeted interventions to alleviate the burden and promote long-term resilience among transport workers.

Transport type	Change of parts		Total
	No	Yes	
Paddle Rickshaw	18.8%	81.3%	100.0% (64)
Battery Rickshaw	4.8%	95.2%	100.0% (63)
Bus Driver	39.1%	60.9%	100.0% (46)
Bus Conductor	34.0%	66.0%	100.0% (50)
Leguna Driver	34.4%	65.6%	100.0% (32)
Uber CNG	8.3%	91.7%	100.0% (48)
Uber Motorcycle	6.2%	93.8%	100.0% (65)
Total	18.8% (69)	81.3% (299)	100.0% (368)
* Figures in parentheses indicate no. of worker.			

The overwhelming majority of transport workers (81.3% overall) have to replace vehicle parts due to climate-related wear and tear (Table-3.23). The necessity is most pronounced among battery rickshaw drivers (95.2%), Uber motorcycle drivers (93.8%), CNG Drivers (91.7%), and Paddle Rickshaw (81.3%). Others reported relatively low proportions,, i.e., Bus Conductors (66.0%), Leguna Driver (65.6%), Bus Drivers (60.9%) reported ,

Cost of vehicle repairs: The cost burden varies dramatically. Bus Conductors (annual BDT 141,109.09) and Bus Drivers (annual BDT 67,578.57) incur the highest costs, reflecting the complexity and expense of maintaining larger vehicles (Table-3.24). In contrast, Paddle Rickshaw and Leguna Drivers face much lower costs, though even these amounts can be a significant burden relative to their income.

It is evident from the findings of these sections that Mechanized transport types experience higher maintenance costs, necessitating systemic support to alleviate financial pressures. App-based and mechanized transport workers exhibit higher adaptation rates, while traditional and lower-income workers (e.g., Bus Conductors, Leguna Drivers) lag behind. Protective measures and vehicle repairs constitute a significant economic burden, with substantial variability across worker types. This amplifies existing income disparities in the informal transport sector. Limited use of protective tools such as gloves, jackets, and hydration strategies highlights areas for intervention to improve health and safety. Climate change exacerbates vulnerabilities for workers in the informal transport sector, particularly those with limited financial resources or institutional support.

Table-3.24: Average annual cost for bringing change of vehicle parts

Type of Driver	Mean	S.D.
Paddle Rickshaw	5490.38	3373.034
Battery Rickshaw	19175.00	13305.034
Bus Driver	67578.57	91852.298
Bus Conductor	141109.09	123468.286
Leguna Driver	11119.05	3308.719
Uber CNG	37836.36	29166.930
Uber Motorcycle	16408.20	14971.654
Total	36401.34	65315.330

3.8 Job security and just transition in the face of climate change

3.8.1 Concerns about job security of the transport workers

Three-fourths of the transport workers of Dhaka City mentioned that they are either ‘very much concern’ (39.3%) or ‘more or less concern’ (35.4%), while another 25% ‘not concerned’ about job security due to climate change (Table-3.25). The highest level of concern is observed among Uber

Table-3.25: Concern about job in the face of climate change

Type of Driver	Concern about job security			Total
	Not concerned	More or less concerned	Very much concerned	
Paddle Rickshaw	28.1%	31.3%	40.6%	100.0% (64)
Battery Rickshaw	44.4%	39.7%	15.9%	100.0% (63)
Bus Driver	34.8%	37.0%	28.3%	100.0% (46)
Bus Conductor	32.0%	16.0%	52.0%	100.0% (50)
Leguna Driver	21.9%	34.4%	43.8%	100.0% (32)
Uber CNG	12.5%	48.4%	39.1%	100.0% (64)
Uber Motorcycle	6.2%	36.9%	56.9%	100.0% (65)
Total	25.3% (97)	35.4%(136)	39.3% (151)	100.0% (384)

* Figures in parentheses indicate no. of worker.

Motorcycle drivers (56.9%) and bus conductors (52.0%), while Battery Rickshaw drivers exhibit the lowest (15.9%). Rickshaw pullers and Leguna drivers also show elevated levels of concern, indicating the vulnerability of those in less formalized or regulated roles. The concern reflects uncertainty about the viability of their professions due to environmental challenges. Informal workers without financial or institutional safeguards are disproportionately affected.

Willingness to continue current jobs: A majority (76.2%) of workers feel they have no choice but to continue their current jobs despite adverse conditions emerging due to climate change (Table-3.26). This reflects the helplessness of the transport workers in Dhaka City.

Uber Motorcycle drivers are the least likely to persist (47.7%), suggesting greater flexibility or access to alternative opportunities compared to others. While Bus drivers (89.1%) and Uber CNG drivers (90.6%) show their highest helplessness in this regard and expressed their willingness to remain, reflecting dependence on their roles for livelihood. Economic necessity

drives many workers to endure worsening conditions. However, Uber Motorcycle drivers' lower commitment could indicate that younger or more mobile workers may explore other options.

Skill training of transport workers: An overwhelming majority (93.5%) of transport workers lack formal skill training; only 6.5% have formal training (Table-3.27). Uber Motorcycle drivers (20%) and Battery Rickshaw drivers (9.5%) have slightly better access, but it remains inadequate overall. This lack of training limits workers' ability to transition to more sustainable or less climate-sensitive employment sectors, perpetuating their vulnerability.

Table-3.26: Whether to continue present job in the face of climate change

Type of Driver	Continue		Total
	Yes, no way	No	
Paddle Rickshaw	84.4%	15.6%	100.0% (64)
Battery Rickshaw	66.7%	33.3%	100.0% (63)
Bus Driver	89.1%	10.9%	100.0% (46)
Bus Conductor	80.0%	20.0%	100.0% (50)
Leguna Driver	83.9%	16.1%	100.0% (31)
Uber CNG	90.6%	9.4%	100.0% (64)
Uber Motorcycle	47.7%	52.3%	100.0% (65)
Total	76.2% (292)	23.8% (91)	100.0% (383)

Table-3.27: Whether transport workers have any formal skill training

Transport type	Formal skill training		Total
	No	Yes	
Paddle Rickshaw	100.0%	0.0%	100.0% (64)
Battery Rickshaw	90.5%	9.5%	100.0% (63)
Bus Driver	89.1%	10.9%	100.0% (46)
Bus Conductor	98.0%	2.0%	100.0% (50)
Leguna Driver	100.0%	0.0%	100.0% (32)
Uber CNG	100.0%	0.0%	100.0% (64)
Uber Motorcycle	80.0%	20.0%	100.0% (65)
Total	93.5% (359)	6.5% (25)	100.0% (384)

* Figures in parentheses indicate no. of worker.

3.8.2 Awareness about government/NGO programs and helps received

Awareness of government/NGO programs: Only 4.7% of workers are aware of any program addressing climate challenges (Table-3.28). That is, almost all transport workers never saw any government or NGO

program addressing climate hazards. Data show that among the 18 transport workers mentioned know about program, most heard-about programs include donations (61.1%) and emergency assistance (50.0%). Awareness is the highest among Leguna drivers (25.0%), while others, such as

Table-3.28: Whether know any program taken by govt./NGO to help transport workers to face the adverse effect of climate change

Transport type	Whether any program taken by govt./NGO		Total
	No	Yes	
Paddle Rickshaw	89.1%	10.9%	100.0% (64)
Battery Rickshaw	100.0%	0.0%	100.0% (63)
Bus Driver	100.0%	0.0%	100.0% (46)
Bus Conductor	100.0%	0.0%	100.0% (50)
Leguna Driver	75.0%	25.0%	100.0% (32)
Uber CNG	100.0%	0.0%	100.0% (64)
Uber Motorcycle	95.4%	4.6%	100.0% (65)
Total	95.3% (366)	4.7% (18)	100.0% (384)

* Figures in parentheses indicate no. of worker.

Battery Rickshaw and Bus Drivers, are completely unaware (Table-3.29). This lack of awareness demonstrates an information gap and a failure to engage transport workers effectively. Programs, if any, need to be more visible and relevant.

Table-3.29: Type of of program heard about (Multiple response)

Programs	%
Donation	61.1%
Embankment construction	33.3%
Tree plantation	33.3%
Emergency food assistance	50.0%
Shelter / housing program	11.1%
Awareness program	5.6%
Total (N=18)	100.0%

Assistance needed to address challenges of climate change: Transport were asked to mention the areas of assistance they need to address the climate change hazards. Multiple answers were allowed. Results are presented in Table-3.30. The

Table-3.30: Assistance needed to address climate change hazards (Multiple response)

Assistance	% (N=384)
Subvention/financial support	79.8%
Developed infrastructure	41.6%
Obtainable treatment	37.3%
Loan/debt for capacitating the vehicle to climate sustained	33.5%
Adaptive training to climate change	31.8%

Table-3.30: Assistance needed to address climate change hazards (Multiple response)	
Necessary food assistance	5.2%
Ensuring job/work security	2.6%
Raincoat/umbrella	1.4%
Creating alternative job opportunity	1.2%
Provide shade by planting trees along the road	1.2%
Providing rickshaw	.9%
Provision of safe house	.6%
Creating opportunity to become self-sufficient by giving livestock	.3%
Providing training to become self-sufficient	.3%
Adequate restroom	.3%

primary needs identified include financial support (79.8%), developed infrastructure (41.6%), and accessible healthcare (37.3%). Loan options

for vehicle upgrades (33.5%) and adaptive climate training (31.8%) are also prioritized, highlighting practical

challenges tied to livelihood and safety. These priorities align with the reality that transport workers lack the resources to adapt their livelihoods to a changing climate. Policy measures should focus on providing direct financial and infrastructural support.

Table-3.31: Whether received any help from any organizations to address the adverse effects of climate change

Type of transport	Assistance received or not		Total
	No	Yes	
Paddle Rickshaw	76.6%	23.4%	100.0% (64)
Battery Rickshaw	98.4%	1.6%	100.0% (63)
Bus Driver	97.8%	2.2%	100.0% (46)
Bus Conductor	100.0%	0.0%	100.0% (50)
Leguna Driver	81.3%	18.8%	100.0% (32)
Uber CNG	100.0%	0.0%	100.0% (64)
Uber Motorcycle	100.0%	0.0%	100.0% (65)
Total	94.0% (361)	6.0% (23)	100.0% (384)

* Figures in parentheses indicate no. of worker.

with little focus on structural solutions (Table-3.32). Assistance provided is largely short-term and inadequate for addressing long-term challenges posed by climate change. A shift towards sustainable and capacity-building measures is crucial.

Assistance received: Only 6.0% of work-

ers reported receiving assistance, with the majority relying on personal aid or government funds (Table-3.31 & Table-3.32). NGO involvement is minimal (4.3%). Assistance primarily includes blankets (42.9%), food (23.8%), and winter clothing (23.8%),

Table-3.32: Place of help received

Place	%
Government Fund	39.2%
Personal Assistance	39.2%
Forgot the Name	13.0%
Car owner	4.3%
NGO	4.3%
Total (N=23)	100.0%

3.9 Knowledge of transport workers about climate change, just transition, and green development

This section provides a comprehensive view of the level of awareness among transport workers in Dhaka City about critical environmental concepts, i.e., climate change, green development and just transition and their sources of information.

3.9.1 Awareness of 'climate change'

Only 33.1% of respondents have heard of the term "climate change." Uber Motorcycle drivers (66.2%) show the highest awareness, likely due to higher exposure to mobile technology and digital platforms (Table-3.33). While Uber CNG drivers (9.4%) and Battery Rickshaw drivers (23.8%) are the least aware. This could reflect limited access to digital resources and educational materials in these groups. The low overall awareness indicates that most transport workers lack foundational knowledge of climate change, hindering their ability to understand and adapt to its impacts. The variance among groups suggests that younger, tech-oriented workers, such as Uber Motorcycle drivers, are better positioned to receive and process information about environmental issues.

Transport type	Whether heard the term <i>climate change</i>		Total
	No	Yes	
Paddle Rickshaw	59.4%	40.6%	100.0% (64)
Battery Rickshaw	76.2%	23.8%	100.0% (63)
Bus Driver	71.7%	28.3%	100.0% (46)
Bus Conductor	78.0%	22.0%	100.0% (50)
Leguna Driver	59.4%	40.6%	100.0% (32)
Uber CNG	90.6%	9.4%	100.0% (64)
Uber Motorcycle	33.8%	66.2%	100.0% (65)
Total	66.9% (257)	33.1% (127)	100.0% (384)

The majority (56.8%) of respondents who have heard about climate change learned about it through TV or mobile devices. General discussions among people contribute 22.4%, while schools and colleges also play a significant role (22.4%). Newspapers (1.6%) and social media (4.8%) are minimally cited as sources (Table-3.34).

Traditional media and informal conversations dominate as information sources. However, the low contribution from newspapers and social media suggests missed opportunities for targeted messaging through these channels. Additionally, the role of education highlights the importance of formal learning, which many informal workers might lack.

Source of knowledge	%
General Peoples voice and discussion	22.4%
TV / Mobile	56.8%
School / College	22.4%
Tea Stall	1.6%
Newspaper	1.6%
USAID	.8%
Social Media	4.8%
Total (N=127)	100.0

3.9.2 Awareness of 'green development'

Only 7.6% of respondents have heard the term "green development," indicating extremely low awareness (Table-3.35). Uber Motorcycle drivers again lead in awareness (24.6%), while other groups exhibit almost negligible familiarity with the concept (e.g., Battery Rickshaw drivers, 1.6%). The term "green development" is largely unknown among transport workers. This indicates that environmental sustainability and development concepts have not been adequately introduced or contextualized for these groups. The slight increase in awareness among tech-savvy drivers suggests potential for outreach through digital means.

Table-3.35: Whether heard about "green development"			
Transport type	Whether heard the term 'green development'		Total
	No	Yes	
Paddle Rickshaw	96.9%	3.1%	100.0% (64)
Battery Rickshaw	98.4%	1.6%	100.0% (63)
Bus Driver	93.5%	6.5%	100.0% (46)
Bus Conductor	96.0%	4.0%	100.0% (50)
Leguna Driver	93.8%	6.3%	100.0% (32)
Uber CNG	95.3%	4.7%	100.0% (64)
Uber Motorcycle	75.4%	24.6%	100.0% (65)
Total	92.4% (355)	7.6% (29)	100.0% (384)
* Figures in parentheses indicate no. of worker.			

TV and mobile phones are the predominant sources (64.3%), followed by schools and colleges (35.7%). Newspapers (10.7%) and posters (7.1%) play minor roles (Table-3.36). As with climate change, media plays a critical role in disseminating information. However, the extremely low awareness even among those exposed to these sources suggests that messaging on green development is insufficiently emphasized or poorly targeted toward informal workers.

Table-3.36: Source of hearing the term "climate Change"	
Source of knowledge	%
School and College	35.7%
TV / Mobile phone	64.3%
Newspaper	10.7%
Poster	7.1%
Social Media ex. Facebook	7.1%
Total (N=29)	100.0%

Awareness of "just transition": None of the respondents had heard of the term "just transition." This complete lack of awareness highlights the absence of discourse on the concept of a fair transition to sustainable practices within the informal transport sector. This is concerning, as "just transition" principles emphasize the protection of workers' rights and livelihoods amid environmental shifts. Its omission reflects a gap in labor and climate policy alignment.

The findings reflect a pressing need to enhance awareness and education about climate change, green development, and just transition among transport workers in Dhaka City. This will require multi-stakeholder collaboration, innovative outreach strategies, and tailored programs that resonate with the unique characteristics of each worker group.

Addressing these gaps is essential to ensure that these workers are not left behind in the shift toward sustainable development.

3.10 Awareness of transport workers about labor rights and TUs and participation in TU activities

This detailed analysis provides an in-depth examination of the data presented in above tables highlighting critical gaps, challenges, and opportunities to improve awareness, rights, and participation among informal sector transport workers in Dhaka. It also outlines the implications for policy and advocacy.

3.10.1 Transport workers' awareness of labor rights

Overall awareness: Slightly more than half of the workers (52.9%) are aware of one more labor right, while 47.1% are not at all (Table-3.37). Uber motorcycle drivers (84.6%) and battery rickshaw drivers (71.4%) have the highest awareness levels. While Bus drivers (21.7%) and paddle rickshaw workers (37.5%) report the least knowledge. Higher awareness among Uber drivers reflects their exposure to formal platforms, digital literacy, and greater interaction with educated customers or app-based protocols. Low awareness among paddle rickshaw workers and bus drivers underscores the lack of outreach and education in traditional modes of transport. Limited formal training or engagement with unions contributes to this gap.

Awareness of specific labor rights: When asked about specific labour rights, among the transport workers aware about labor rights, mentioned 'right to decent wage' (51.2%) most frequently. This is closely followed by 'right to a safe working place' (50.7%), 'right to employment and work security' (45.8%), 'right of social security' (37.4%). On the contrary, rights like fair speech (0.5%), pension schemes (1.5%), and legal aid (1.5%) are barely recognized (Table-2). It is evident that workers prioritize wage security and

Table-3.37: Transport workers, knowledge about labor right			
Transport type	Know about labor rights		Total
	No	Yes	
Paddle Rickshaw	62.5%	37.5%	100.0% (64)
Battery Rickshaw	28.6%	71.4%	100.0% (63)
Bus Driver	78.3%	21.7%	100.0% (46)
Bus Conductor	32.0%	68.0%	100.0% (50)
Leguna Driver	50.0%	50.0%	100.0% (32)
Uber CNG	70.3%	29.7%	100.0% (64)
Uber Motorcycle	15.4%	84.6%	100.0% (65)
Total	47.1% (181)	52.9% (203)	100.0% (384)
* Figures in parentheses indicate no. of worker.			

Table-3.38: Labor rights transport workers aware (Multiple response)	
Labor rights	%
Right of decent wage	51.2%
Right of safe working place	50.7%
Right of employment and work security	45.8%
Right of social security	37.4%
Right of treatment	27.6%
Right of trade union	10.8%
Right of getting food	1.5%
Taking under pension scheme	1.5%
Legal aid	1.5%
One time assistance case of emergency	1.5%
Right to fair speech	.5%
Right to security	.5%
Total (N=203)	100.0%

safe working environments, reflecting their immediate struggles in unsafe and poorly regulated conditions. While low awareness of pension schemes, legal aid, and fair speech points to systemic neglect in educating workers about their broader rights and long-term security.

3.10.2 Knowledge of TUs and Participation in TU activities

Existence of TU in job sector: A significant majority (82.8%) of transport workers do not

Table-3.39: Whether know about any TU/organization in respondent's job sector

Transport type	Whether know		Total
	Do not know	Know	
Paddle Rickshaw	90.6%	9.4%	100.0% (64)
Battery Rickshaw	90.5%	9.5%	100.0% (63)
Bus Driver	56.5%	43.5%	100.0% (46)
Bus Conductor	66.0%	34.0%	100.0% (50)
Leguna Driver	75.0%	25.0%	100.0% (32)
Uber CNG	93.8%	6.3%	100.0% (64)
Uber Motorcycle	92.3%	7.7%	100.0% (65)
Total	82.8% (318)	17.2% (66)	100.0% (384)

* Figures in parentheses indicate no. of worker.

know of any TU/organization in their job sector, only 17.2% (66) transport workers know about TU/organization in their occupational. Bus drivers (43.5%) and conductors (34%) mentioned know about TU/organization in their job sector (Table-3.39). On the contrary, Uber drivers

(93.8%) and paddle rickshaw workers (90.6%) mentioned the least about the existence of TU/organization in their job sector. It is evident that tradi-

tional unions have failed to effectively reach informal sector workers, particularly those in newer, app-based modes of transport. The fragmented and weak presence of TUs in the informal sector diminishes their ability to represent workers effectively.

Membership in TUs: Only 66 of 384 transport workers covered in this study mentioned TU/organization exist in their job sector (see Table-3.39). Of these 66 transport workers, only 40.9% are members of TU/organization (Table-3.40).

This is only 7.0% of all transport workers covered in this study. Battery rickshaw drivers (83.3%) and Uber CNG drivers (75%) show relatively higher participation, while Leguna drivers and Uber motorcycle drivers have no reported membership. Workers who know about the existence of TU/organization in their job sector may still choose not to join, likely due to mistrust or perceived ineffectiveness of these organizations. With a mere 7.0% (27 out of 384) actual TU membership rate, the informal sector suffers from inadequate collective bargaining power.

Table-3.40: Whether transport workers member of any TU/organization

Transport type	Whether any TU		Total
	No	Yes	
Paddle Rickshaw	50.0%	50.0%	100.0% (6)
Battery Rickshaw	16.7%	83.3%	100.0% (6)
Bus Driver	50.0%	50.0%	100.0% (20)
Bus Conductor	64.7%	35.3%	100.0% (17)
Leguna Driver	100.0%	0.0%	100.0% (8)
Uber CNG	25.0%	75.0%	100.0% (4)
Uber Motorcycle	100.0%	0.0%	100.0% (5)
Total	59.1% (39)	40.9% (27)	100.0% (66)

* Figures in parentheses indicate no. of worker.

Name and programs of TU having membership: To get more information regarding TU activities, we asked the 27 transport workers who reported members of TUs about the name of the TU/organization and type of type of type of programs undertaken by those TUs. Table-3.41 presents the names of TUs. As seen membership is dispersed across 16 small organizations, with no single union dominating. It is evident from the data presented in Table-3.42, programs of TUs focus on immediate crises like “overlook the hassles created by law enforcement agencies” and “assistance to member in danger” (66.7% each), “help to predicated the documents”, etc., while minimal focus on long-term support, such as savings/loans (18.5%) or addressing extreme weather (3.7%). Findings reveal that the lack of a unified TU structure limits their reach and influence. Programs focus on addressing immediate crises (e.g.,

Table-3.41: Name of the organization respondent being a member	
Name of TU/organization	%
Not member	93.0
Mirpur Road Transport Labor Union	1.6
Rickshaw Malik Samity	1.0
Sramik Federation	.8
Auto Rickshaw Malik Samity	.3
Auto Sramik Andolon	.3
Dhaka District Sramik Union	.5
Dhaka District CNG & Mishuk Driver Union	.3
Dhaka District Mini Bus Sramik Union	.3
Dhaka District Truck, Coverd Van Sramik Union	.3
Dhaka Inter-City Labor Unioon	.3
Dhaka Zela Janbahon Sramik Union	.3
Ganojagoron	.3
Gazipur Road Transport Labor Union	.3
Jagoron Protibondhi Kallayan Songstha	.3
Malik Samity CNG Federation	.3
Sramik Union	.3
Total (N=27)	100.0

Table-3.42: Programs of the TU/organization transport workers have membership	
Programs of TU/organization	%
Overlook the hassles created by law enforcement force	66.7%
Assistance to member in danger	66.7%
Help to predicate the documents	22.2%
Savings and Loan	18.5%
Help in extreme hot or winter	3.7%
Discussion with opportunities as well as challenge	7.4%
Nothing to do	14.8%
Donation	3.7%
Assistance to the persons with differently able	3.7%
Total (N=27)	100.0

police issues, emergencies) rather than building resilience through proactive measures like climate adaptation or financial security.

Suggested programs for TUs to address climate change hazards: Given the fact that few transport workers are aware of TU, we asked all transport workers about what programs should be taken by the TUs to address the climate change hazards. Multiple suggestions (response) were accepted. Data regarding this has been presented in Table-3.43. Financial assistance during natural calamities (50.4%) has been mentioned most frequently by the transport

workers. ‘ensuring proper treatment’ and ‘providing legal aid’ (16.8% each) and ‘low-interest loans’ (13.9%) and distribution of protective equipment (8.2%) also feature prominently. Suggestions include awareness programs (7.4%), pressure for infrastructure like

Table-3.43: Programs suggested by transport workers to be taken by TUs to address the climate change hazards

Programs suggested	%
Providing financial assistance during natural calamities as as when we have no job / work	50.4
Ensured proper treatment	16.8
Providing legal Aid	16.8
Assist the members by providing loan with low interest	13.9
Work for ensuring rights	10.2
Distribution of protective equipment like Winter clothes, Raincoat. Umbrella, etc.	8.2
Awareness program about climate change among the members	7.4
To create pressure to construct parking, Toilet, washroom ,so on	6.6
Providing proper training to cope with the climate change impacts	6.6
To get job security	4.5
Tree plantation on behalf of the Union	4.5
Ensure the protection	3.7
Trade union will do nothing but all cheats, No trust	3.3
Assistance to fix the major trouble of the vehicle due to accident	2.0
Keep low rent during natural calamities	2.5
Clean the Road and Drain	1.2
Taking initiatives to reduce smoke from vehicles ex. create pressure to increase fitness the vehicle	.8
To register the Laborers with their distinct ID Card	.8%
Ensure transparency to distribute the donation	.4%
Total (N=244)	160.7%

toilets and parking (6.6%), and training to cope with climate impacts (6.6%). It is evident that the emphasis on financial aid highlights workers' vulnerability during climate-induced disruptions. Suggestions like climate change training (6.6%) and protective equipment (8.2%) reflect a growing, but still limited, understanding of adaptation needs.

3.10.3 Challenges in regard to knowledge and participation in TU activities

Low awareness: Almost half of the workers lack knowledge of labor rights, leaving them susceptible to exploitation. Over 80% are unaware of TUs, reflecting poor outreach and representation.

Minimal TU participation: Only a fraction of workers are TU members, undermining collective bargaining efforts. Existing TUs are fragmented and reactive, limiting their effectiveness.

Climate change vulnerability: Workers face severe climate impacts, yet TUs have limited programs to address these risks. Financial insecurity during natural calamities is a pressing concern.

The data reveal significant gaps in labor rights awareness, TU participation, and climate adaptation among Dhaka's informal transport workers.

3.11 Transport workers concern and suggestions about climate change hazards

3.11.1 Concern about climate hazards expressed through discussion with others

Whether transport workers discuss climate change hazards: The data indicates that 83.1% of transport workers have not had any discussions about climate change hazards with anyone, while only 16.9% have engaged in discussions (Table-3.44). This suggests a significant lack of awareness or initiative among transport workers to address or even talk about climate-related challenges. The highest proportion of discussions occurred among Uber CNG drivers (34.4%), followed by Paddle Rickshaw drivers (25.0%) and Leguna drivers (21.9%). In contrast, the lowest rates were among Battery Rickshaw drivers (4.8%) and Bus Drivers (4.3%).

Table-3.44: Whether had discussion about climate hazards with anyone

Transport type	Whether had discussion		Total
	No	Yes	
Paddle Rickshaw	75.0%	25.0%	100.0% (64)
Battery Rickshaw	95.2%	4.8%	100.0% (63)
Bus Driver	95.7%	4.3%	100.0% (46)
Bus Conductor	92.0%	8.0%	100.0% (50)
Leguna Driver	78.1%	21.9%	100.0% (32)
Uber CNG	65.6%	34.4%	100.0% (64)
Uber Motorcycle	83.1%	16.9%	100.0% (65)
Total	83.1% (319)	16.9% (65)	100.0% (384)

* Figures in parentheses indicate no. of worker.

Persons discussed with: The discussions that did occur were primarily held with friends or colleagues (81.5%), reflecting the workers' reliance on peer networks for support and exchange of ideas (Table-3.45). Family members (23.1%) were the second most common discussion partners, while interactions with authorities like car owners or transport unions were minimal (4.6%). This demonstrates a lack of engagement with formal or organizational bodies that could influence policy or provide support.

Table-3.45: Persons discussed with (Multiple response)

Person	%
Family Members	23.1
Friends / colleague	81.5
Neighbor	3.1
Car authority / malik Samity	4.6
Total (N=65)	100.0

Subject of discussion: The majority of discussions focused on extreme weather events (90.4%), such as cyclones, floods, and droughts. Other topics, like deforestation or tree plantation (3.8%), and specific issues like adverse effects on day laborers (1.9%) or requesting help during accidents (1.9%), were rarely mentioned. This highlights a narrow understanding of climate change impacts, with most workers associating it with immediate and observable weather extremes.

Table-3.46: Subject of discussion

Subject of discussion	%
Extreme weather, cyclone, flood, drought and so on.	90.4
Deforestation /tree plantation	3.8
Asking help during any type of accidents	1.9
Day laborers are adversely affected by extreme weather, reduced their income	1.9
Total (N=65)	100.0

3.11.2 Measures suggested by transport workers to mitigate climate change hazards

Workers proposed a wide array of measures to reduce the impact of climate change. The most frequent suggestions include:

Road renovation and development (33.6%): A reflection of poor infrastructure conditions that exacerbate difficulties during extreme weather.

Tree plantation (28.6%): A significant proportion emphasized environmental rehabilitation.

Elimination of waterlogging (21.1%): Indicative of urban drainage problems, especially during heavy rains.

Provision of protective equipment (20.5%) and free food and water (19.6%): Highlighting the immediate needs of workers exposed to extreme weather.

Other notable suggestions include financial donations (19.0%), affordable medical treatment (14.9%), and construction of restrooms or safe shelters (11.0%).

Less commonly mentioned but insightful recommendations include awareness programs (6.3%), improved drainage systems (5.7%), and public toilets (4.5%). These point to systemic gaps in infrastructure and social support that need to be addressed.

Table-3.47: Measures need to be taken to reduce the impact of climate change
(Multiple response)

Measures	%
Road renovation or development	33.60
Tree plantation along the road side, wasteland	28.60
Taking effective measure to eliminate waterlogging	21.10
Providing the protective equipment like Umbrella, Raincoat, saline, etc.	20.50
Providing free pure drinking water and food on street	19.60
Financial donation	19.00
Providing affordable and good treatment at the time of bad time	14.90
Construction of restrooms and provision of safe shelters during disasters	11.00
Financial supports during illness or job less	6.30
Creating awareness of not harming the environment rather developing the environment	6.30
Developed the Drainage system	5.70
Provision of adequate public toilets	4.50
Dredging the river, channel as well as prevention of channel and river filling	3.90
Proper Govt. initiatives to control natural calamities and pollution	3.60
Sprinkle water on the road to reduce dust	3.30
Construction the parking lot	3.00
Take proper measures to lead a better life for us	2.70
Ensure job security or other job sectors	2.70

Table-3.47: Measures need to be taken to reduce the impact of climate change (Multiple response)	
donate free the Bike, Rickshaw	2.40
Introduction of eco-friendly vehicles	2.40
Distribution of Clothes	1.80
Introduction of Ration card, housing. health card .	1.80
No littering anywhere	1.50
Decrease the number of car from the road	0.90
Dam Construction	0.60
Total (N=336)	100.0

Chapter-4

Results Derived through Qualitative Study

This chapter presents the findings derived through the qualitative approach of the present study. It is worth mentioning that qualitative approach included 4 Focus Group Discussions (FGDs) with the representatives of TUs of different transport workers, 7 Key Informant Interviews (KIIs) with experts from the concerned organizations, 4 case studies with the transport workers, a meeting with policymakers and experts, a consultation session, and a national dissemination seminar. Data obtained were processed and analyzed using thematic approach and presented in the following sections.

4.1 Impact of climate change on transport sectors

The informal sector is a leading job opportunity in our country. Without institutional structure, the jobs that generally do not have the chance to obtain legal protection are known as informal jobs. Many workers are involved in the informal sector, and the transport sector covers a large part of this sector. Climate change has a direct adverse impact on the workers in this area.

4.1.1 Reduction of working hours

Workers' wages in the informal economy are determined by working hours. More engagement at work may lead to higher income increases for workers. The informal transport sector laborers are now compelled to reduce their working hours due to extreme weather conditions.

The TU member of Paddle Rickshaw supposed that “Rickshaw pullers don't get a chance to rest in extreme heat, so they get weak and tired very quickly and can't drive for a long time.” FGD with Rickshaw TU & Bus workers

4.1.2 Impact of climate change on job security of transport workers

Job vulnerability among transport workers, especially rickshaw pullers, is a growing concern from the perspective of job security and just transition which is exacerbated by present climate hazards. Paddle rickshaw pullers usually have to do a lot of physical hardships. Climate hazards make their job even harder, leading to frequent illness and reduced productivity. Despite Paddle Rickshaw being eco-friendly, excessive physical suffering compels the drivers to leave behind the profession. As a result, many are turning to battery rickshaws, which require less effort so that they can drive longer hours to ensure more income.

FGD with Paddle Rickshaw TU members explained that “Driving a pedal rickshaw requires a lot of effort. Climate hazards, such as excessive heat, makes the rickshaw pullers sweat, and they fall sick quickly. Though the paddle rickshaw is not detrimental to the environment, the paddle rickshaw is on the verge of being closed due to excessive physical hardships.” The TU

members of Battery Rickshaw Puller also agreed with this statement, and they mentioned that *“the demand for battery rickshaws is increasing day by day”*.

Climate change hazards make informal transport workers more vulnerable and job insecure.

“In the current weather conditions, maintaining my workload is becoming increasingly difficult. Sustaining this level of work requires physical strength. As long as I have the strength, I can manage, but if my capacity diminishes, I won’t be able to continue. With age, my ability to work is gradually declining”
(Case study with Uber Biker).

Similarly, a CNG Driver, during case study mentioned that adverse weather coupled with increasing competition among the transports like motorcycles, private cars, and autorickshaws compelling the drivers to shift from this occupation though they have little opportunity to secure their livelihood in other job sectors.

“There is no chance to go to another sector, even if it is difficult; we have to stay here. Earlier, my income was good; I used to get 1500 BDT per day. Now, there are many cars on the road. Motorcycles and private cars also take passengers on the trip. Hondas and autorickshaws are most responsible for decreasing the income of CNG drivers.”

The survey respondents claimed that if the current weather conditions continue, the rickshaw pullers will be forced to leave this occupation. But Rezaul Karim, a rickshaw puller in the case study, thinks that no matter how difficult it is to drive rickshaws due to adverse climate change, rickshaw pullers cannot leave the sector. Because to enter this profession, no investment is required, but if anyone wants to do anything else, investment will be required. Besides, the government of our country could not create alternative job opportunities for the workers in this sector. So, no matter how hard the rickshaw pullers can't leave this profession.

“No, there’s no way people will leave this profession. With the poverty they are facing, if they leave this job, there is no other sector created by the government where they can sustain their families. When it’s hot, it’s complicated, and sometimes it causes health issues like a stroke. In the village, doing something else requires a lot of investment, but driving a rickshaw doesn’t require any investment. (Rezaul Karim, Rickshawpuller)

The Decent Work agenda emphasizes job security for workers, but it is highly ignored in the informal economy, like the transport sector in Bangladesh. and this study suggests that authorities should take the proper initiatives to ensure job security for the workers involved in this informal sector.

4.1.3 Increased maintenance and operational costs

Uber car drivers and battery rickshaw pullers face increased maintenance costs due to climate-hazards that leading to faster degradation of vehicle parts.

According to FGD with TU Representatives of Uber Car Drivers “Car maintenance costs have increased a lot. At present, the drains are blocked, which creates

a waterlog, which makes it difficult to move on the roads, and various specks of dirt are picked up and deposited on the roadsides, making the roads narrow, making it difficult to drive properly. During the waterlogs, the water enters the car's machine. Moreover, the internal parts of the car's machine are devastated very quickly due to extreme heat. The price of the machinery is very high since the car parts are imported from abroad".

FGD with Battery Rickshaw drivers reveals that rainwater sometimes seeps into the motor and, occasionally, the battery itself during waterlogging. Excessive heat during summer raises the cost by frequent Tire and Tube repairs.

"During waterlogging, water enters the motor and/or battery leading to stop page. There are electricity cuts during summer causing charging problems. Driving the Rickshaw is difficult in hot weather; Tires get punctured more in hot weather." (Battery Rickshaw).

The substantial maintenance costs for the vehicles resulting from the effects of climate change were acknowledged by the TU representative of bus drivers. "Both the driver and owner of the bus are affected. Present climate conditions damage the transport parts. Transport repair costs increased yearly."

Ahsanur Rahman (Uber Biker) mentioned during case study as follows:

"In the summer, the tyres damaged due to excessive heat. A few years ago, it was seen that I would drive a tyre for 2 years, whereas now, as the duration of summer has increased, and I have to change tyre in 14 or 15 months. The maintenance costs of Bike are a bit higher when the road is broken due to waterlogging. During the rainy season, the chances of the machine's parts getting damaged are also higher. I have to wash it twice a week and it costs around 100 to 200 taka per wash.

During case study with the CNG driver, Humayun Kabir described the situation as:

"During waterlog, if water enters the plug that stops the CNG. Then, I need to pull my CNG to the garage. Although the owner of CNG bears the maintenance cost, along with suffering, I lose my income. The owner only under stands the deposit."

4.1.4 Negative job performance score

The TU representatives of Uber (a platform-based transport service) drew attention to the negative impact of climate change on their professional lives. Only this application-based transport service has the arrangement that the passenger can give a rating to the drivers after taking a ride. The spokesman of Uber claimed that the environmental challenges, like waterlogging after heavy rain, disrupt driver-passenger relations and affect drivers' professional ratings. According to FGD with Uber TU -

"Customer dissatisfaction is created. For example, waterlogging occurs when there is excess rain. Sometimes, we took a trip where 500 meters of land is under water. I don't want to go down that road. When I go, the water

turns inside my car's engine. I don't want to go for fear of damaging machine parts. On the other hand, the passenger wants to cross the road. Due to this, the passengers have to get involved in arguments. This reduces the driver's rating which also affects his professional life."

Unfortunately, these ratings, though driven by external circumstances beyond the driver's control, can harm the driver's professional standing and income stability. Thus, climate change affects the transport worker's professional life.

4.2 Impact of climate change on the life and livelihood of the workers of the informal economy

4.2.1 Reduced income

Climate change significantly impacts informal transport workers' income, according to respective TU members. FGD with TUs particularly mentioned that the 'excessive-hot weather' significantly impacts the livelihoods of transport workers. During summer, excessive heat puts additional physical strain on rickshaw pullers compelled to reduce the number of trips and working hours to avoid health risks associated with extreme heat, resulting in a low income for the Rickshaw puller. FGD with Paddle Rickshaw -

"The rickshaw pullers can't run the Rickshaw during the excessive-hot weather. They compel to reduce the number of trips and cut off their working hours, leading to a decrease in their income."

Not only the rickshaw pullers but the whole transport sector in Bangladesh compels to decrease in work hours due to extreme weather leading to reduced income. Battery Rickshaw TU members during FGD mentioned, "The drivers are usually getting sick due to extreme weather that affects their income. They can't drive as per their daily routine, which results in low income." Similarly, Bus Driver TU explained this issue as, "Drivers get tired so quickly which reduces the number of trips resulting in low income and economic crisis for their families."

Case study participants claimed that climate hazards put livelihoods at risk, especially for informal transport workers who deal with unstable income, growing costs for cooling or auto repairs, and heightened health risks like heat stress and dehydration.

"It is more difficult in the hot season since I have to be outside a lot of the time. But it is more difficult in the rain than the hot season, because when it rains, riders or ride-share riders do not want to get on the bike. The income also decreases as the trips decrease. I have to accept these problems and do nothing." (Ahsanur Alam, Uber Biker).

"The number of passengers was reduced due to cyclones, floods, and thunders and then the income was also reduced. Water accumulates on the road. The waste from the drain comes to the street. I can't drive then. Now the income for many motorbikes and private cars is very low. No income as before." (Humayun Kabir, CNG Driver).

For rickshaw pullers, extreme heat becomes another barrier, with passengers avoiding travel under the scorching sun and drivers becoming fatigued quickly, reducing their working hours and income potential.

“When it gets very hot, the road also becomes hot, and we are getting tired very soon. During the hot weather, the number of passengers decreases, and the drivers also suffer a lot” (Rezaul Karim, Rickshaw Pullar).

Climate change hazards, in general, severely affect the income of the transport workers. However, the situation is different for car drivers. Hosnara, a female car driver of BRAC, during case study, mentioned “The climate changes haven’t impacted our work significantly. Even during storms and rain, we can work. The only difficulty is when not in trip we sit inside the car, can’t run the AC, and feels uncomfortable due to extreme heat.”

4.2.2 Unhealthy living place

Reduced income caused by climate change hazards adversely affected the housing of the transport worker:

“Due to climate change, income of Rickshaw pullers has reduced significantly leading to living in low-rent areas, especially in slums having negative impact on health.” (FGD with Paddle Rickshaw TU members). *“Currently, due to climate change, the income of transport workers has decreased. To save costs, they have to look for low-cost housing, where the living conditions are very poor. For example, there is no provision for safe water. They cannot drink safe water in workplaces either”* (KII Respondent from UNIDO Bangladesh). *“Waterlogging is affecting workers in the transport sector a lot. As they are driving less, their income is decreasing. As a day laborer, the decrease in their income is directly affecting their economic condition. The difference in income, the lower income is directly affecting their housing. They can’t afford a better living place”* (Consultation Meeting with different TU leaders).

CNG and Rickshaw drivers, during case study, mention that their home environment is not standard. The rickshaw pullers usually remain in the garage where the rickshaws are kept though in some extent they reside in better or another place. According to the respondents, the garage with many difficulties is not a better place to live.

“The Rickshaw pullers mainly stay in the garage with rickshaws face so many problems including bite of bedbug, unhygienic washroom, without fan, etc. Additionally, people in the garage often use drugs.” (Rezaul Karim, Rickshaw puller)

Humayun Kabir, a CNG driver exclaimed with sorrow that

“Earlier the income was good, then I lived on the 4th floor of a flat house, now I live in a slum. It is a tin-shad room and very hot. My wife and children are suffering a lot. During summer, it feels so hot that they can’t stay in the room, they have to come out. During rain, waist-deep water accumulates in front of the house. It is very difficult to go through the water then.”

It is worth mentioning that Uber Bikers and Car drivers live in better places as they can afford.

4.2.3 Increasing health hazards and medical cost

Informal transport sector workers confront serious health issues as a result of a climate hazards and a lack of health awareness. Regular exposure to excessive dust, carbon monoxide, and carbon dioxide causes major respiratory problems, including lung cancer, asthma, and COPD.

“Climate change directly affects the health of transport workers. Carbon monoxide and Carbon dioxide directly cause them to degrade their health. Moreover, they are not getting proper treatment, their health is continuously degrading. They can’t survive in this occupation and are bound to leave their job. The owners of vehicles do not compensate them for anything. The workers even do not know that their health is being deteriorated.” (KII with ILO Representative).

The Paddle Rickshaw Puller TU members during FGD, in the same way mentioned, *“The air is highly contaminated nowadays. As a result, drivers suffer from respiratory diseases. During the winter, a high density of fog in the early morning causes the cold to the puller.”* Being low or no education, Rickshaw pullers do not have proper health knowledge. Sometimes they take unnecessary medicine that makes their health more critical. According to the TU members of Paddle Rickshaw, *“The pullers usually eat the saline water without knowing the proper rules of taking saline. They sometimes drink too much saline water in a day or mix the saline powder in less water, severely affecting their health. It may cause death.”*

FGD with Bus Driver TU members-

“Bus drivers suffer from various health-related issues like tiredness, lack of sleep, skin diseases, lung problems, heart diseases, virus diseases, etc. Their physical condition has been worsening and their life span is reduced by up to 15 years. Lung problems, such as asthma, chronic obstructive pulmonary disease, or lung cancer have been increasing. Infections of the airways, such as croup, bronchitis, pneumonia, flu, or even a cold also increased. Bus drivers also having skin problems and suffer from allergy.”

In this regard, the UNIDO representative Bangladesh, during KII, mentioned that *“Our air is much more polluted due to the amount of dust in the air which is not visible. The workers in our transport sector suffer from various respiratory-related problems and when it rains heavily, waterlog occurs, then the dross of drain mixes with the flood water which causes skin diseases like itching, allergy, and so on.”*

KII respondent from BILS clarified *“Climate change mainly impacted informal economy workers livelihood, displacement, etc. Rickshaw pullers and bus workers are directly affected by heavy and unusual rainfall, water logging, and high temperatures. This is almost same for platform workers, especially, platform workers engaged in food delivery and motorbike courier.”*

Findings from FGD and KII revealed that the health care expenses have been increased significantly to address the health problems caused by climate change hazards.

“Drivers suffer from different health issues caused by dust and smoke. A great portion of their income is used to bear the treatment cost. Moreover, they don’t have access to adequate nutrition” (FGD with Uber TU).

CNG Driver Humayun Kabir, during case study mentioned-

“I always have a cold, and my family members are always ill. I live in the heat on the street, while at home my wife and children suffer in the heat because I live in a slum and a tin-shade room. Cold, fever persists. One day wife, one day son is sick, one day daughter is sick. In this way, the illness persists.”

Rickshaw puller Rezaul Karim, during case study-

“I always have cold, cough, and fever. I also often get sudden headaches. Yes, dust sometimes enters my nose, making breathing difficult, and loud noises damage my hearing capacity. Earlier, I didn’t need much medical treatment, but now I have to go for treatment almost regularly.”

Case study with women in the transport worker revealed that they face unique challenges due to inadequate sanitation facilities. Many are forced to reduce water intake or hold their urine for long hours, leading to urinary tract infections (UTIs). According to Car driver Hosnara –

“The biggest problem is that we cannot drink enough water despite the extreme heat. Because suitable washrooms are not available everywhere. Even the scarce washrooms are so dirty it’s difficult to use. So, we drink less water and often hold our urine for long periods. As a result, when I return home at night, I experience a burning sensation during urination. Over time, this leads to urinary tract infections, which have become a major health issue. As a result, my medication expenses have increased.”

Transport workers, due to their increased morbidity, require spending more money for medical purposes. Humayun Kabir, a CNG driver, claimed that he spends approximately 5000 BDT per month on treatment. Additionally, when workers fall ill, they experience a complete loss of income, further exacerbating their financial hardships.

“About 5000 BDT per month is spent on my treatment. The biggest problem is that my family has no income when I get sick. I have to borrow money from people to meet the medical expenses, otherwise, I collect instalments from society, and then I pay it slowly. There is nothing else to do.” (Humayun Kabir, CNG Driver).

4.2.4 Behavioral degradation

Transport workers experienced a humorous change in their behavior, which they claimed was due to the extreme weather conditions. As described by Battery Rickshaw TU members during FGD, “The drivers’ temper becomes currish due to extreme heat.”

Bus TU members, during FGD, mentioned that “Transport workers’ mental health also deteriorates due to loss of patience, panic attack or anxiety.”

According to the consultancy meeting with different TU members-

“Due to climate change, transport workers’ income has decreased, while diseases have increased, many are economically affected and cannot afford to live in better places, mostly living in slums. Due to these losses, they go through emotional trauma, their temper becomes irritable, and they cannot behave well with others. So, transport workers have lost their position of respect in the society.”

Overall, the drivers of transport sectors, all agreed that their mental pressure has been continuously increasing.

4.3 Green development initiatives and their implications for transport workers

4.3.1 Green development initiatives

Commencement of metro rail: A step to green development but not just transition:

The TU members of different transport sectors, the experts, participants of consultancy meeting, and KII respondents, all mentioned ‘Metro Rail’ as a green development initiative. The TU members of Uber mentioned that *“Government has implemented Metro Rail as a part of mass communication project. It is a green development project in the transport sector.”* The KII respondent from ILO and the TU representative of Battery Rickshaw, on the other hand, claimed that no green development initiatives have ever been taken in Bangladesh to reduce the impact of climate change hazards in the transport sector. However, Metro Rail has started its journey in Bangladesh taking under consideration of reduction of Traffic jam but not the climate resilience and not ensuring the just transition of transport workers.

“Many workers especially those involved in the transport sector have lost their jobs due to the commencement of Metro Rail and the affected workers were not provided with any income opportunity, which proves the just transition is ignored” (KII with BLF Official).

Representatives of the Ministry of Labour and Employment also agreed with the statement of BLF. *“Though Metro Rail consumes less energy and has a lower impact on climate, it negatively affects the workers’ job security in the transport sectors. Metro brings happiness to the commuters but the rickshaw pullers, bus drivers described this service as a threat that makes them more vulnerable to their occupation.”*

“Metro Rail’s fuel supply is completely dependent on the uses of electricity that is not produced from solar energy but rather fossil fuel-dependent production. Metro Rail is not a complete green development initiative.” (KII with UNIDO Official).

Tree plantation: Causing harm to transport workers: Uber TU members mentioned during FGD *“City Corporation has taken an initiative for tree plantation.”* But in the name of the tree plantation program, the authorities harmed the climate as

well as the transport workers. *“City Corporation cut off the big trees along the road-sides and put down the small size trees or flower plants which don’t provide any shade to transport workers that the big trees did provide. This beautification program caused more harm to the workers of the transport sector”* (FGD with Paddle Rickshaw TU member).

Enthusiasm for buying electric vehicles: Electric cars are comparatively less harmful to the climate, and they reduce the dependency on natural gas which emits a lot of carbon monoxide and Carbon dioxide, leading to global warming. *“The government has taken a green initiative through the reduction of tax on Hybrid cars. The government has imposed a seventy-nine percent tax on Hybrid cars, and the rate of tax on gasoline cars is 160 percent. But people are not interested in buying the Hybrid car due to high maintenance cost”* (Uber TU members).

Imposing Obligation of using CNG: Compressed Natural Gas (CNG) is more eco-friendly than gasoline and diesel. CNG reduces harmful emissions like carbon dioxide, carbon monoxide, and suspended particles. It also helps protect the environment by reducing global warming. *“Using the CNG in vehicles has been enforced by the government for few years”* (TU members of Uber).

However, BLF and ILO claimed that *“no green development initiative is implemented, but only a few advocacy programs and research have been done.”* The battery rickshaw trade union leaders also claimed that *“no authorities have taken any steps.”*

Low fuel cost: Only the TU members of Uber explained that *“We can buy CNG for half the price of gas, which has reduced our fuel consumption a lot. Due to lower fuel consumption, fares are lower than gas”* (TU members of Uber).

“Due to conversion into CNG, some of the vehicles maintenance cost reduced” (TU members of Uber).

4.3.2 Employment opportunities created by green development initiatives in the transport sector

No employment opportunities have been created through the green development initiatives asserted by the TU members of transport sectors including Paddle and Battery Rickshaw and Bus. Instead, green development initiatives create challenges to employment opportunities.

Reduction of the number of commuters: The TU members of Uber and Bus shared their experience as *“Due to Metro Rail, almost ten percent passengers have reduced. The passengers usually get the opportunity to move very fast by using the Metro. But the transport workers have lost their income.”*

Waste of working hours/inadequacy of CNG stations: TU members of Uber claimed that the drivers have to wait for a long of time to take fuel from a CNG station. *“We have to wait in a long queue to take CNG which shortens our working hours. Because the CNG station remains closed from 6 PM to 11 PM. This refill waiting time affects negatively our income”* (FGD with Uber TU member).

High maintenance cost in hybrid car: According to the FGD participants *“The maintenance cost of a Hybrid car is very high. Bangladesh is not yet ready to accept the Hybrid car. There is a scarcity of Hybrid car workshops, and the engine parts of this new car are not available”*.

4.4 Involvement of TUs to reduce the adverse effects of climate change in transport sector

4.4.1 TU engagement

No involvement at all: The leaders of different trade unions mentioned that they have never been involved in these activities. Paddle Rickshaws and Battery Rickshaws, both admit that *“They have no involvement in the reduction of climate change or green development initiatives”* (TU members of Paddle Rickshaw and Battery Rickshaw).

“No discussion was held with the TU leaders of our sector regarding resettlement and establishment during metro rail construction. ITUC called for discussion, but no positive and effective result has been foreseen so far” (FGD with Bus TU members). The Ministry of Labor and Employment as well as City Corporation claimed, *“No Trade Union never communicates with them in this concerned issue”*. Only the TU members of Uber stated that *“A tree plantation program had been implemented with the help of Ridesharing.”*

4.4.2 Role of TU to reduce the adverse effects of climate change

Arrangement of awareness programs: *“We can work in building awareness among the transport workers. For example: cleaning the road & everywhere around us. TUs can arrange a meeting with owners and drivers about the intermittent black smoke from vehicles. We can easily terminate this poisonous smoke by maintaining the engine regularly”* (TU representatives of Uber). *“Increasing awareness programs among the drivers. For example- arrangement of safe drinking water to the drivers during the hot weather condition”* (TU Representatives of Battery Rickshaw). *“The TU can arrange awareness programs to create awareness among the drivers”* (TU representatives of Autorickshaw).

Discussion with Government: *“We can discuss with the government to open CNG stations for 24 hours”* (TU representatives of Uber).

Fund raising: *“We can collect funds to cope with climate change”* (TU representatives of Uber).

Arrangement of training: *“The Trade Union can arrange training sessions to minimize the rate of road accidents rate among the drivers”* (TU representatives of Battery Rickshaw).

Economic assistance: *“The Trade Union can economically assist the drivers in coping with climate resilience”* (TU representatives of Battery Rickshaw).

Claim of rights: *“The Trade union can raise the rights to the Government or authority for sustainable jobs for the battery rickshaw puller”* (TU representatives of Battery Rickshaw).

4.5 Just transition and TUs in the transport sector

Unfamiliar with the term just transition: All the participants in FGD from various Trade Union Members didn't have any training on Just Transition. Even they did not hear the Just Transition term.

Just transition overlooked: All TU members of various kinds of transport, during FGD, agreed *"Just Transition is not ensured and completely ignored by the policy maker"*. The participants in the consultancy meeting also accepted this statement *"No, Just Transition is not ensured."*

Role of TU in ensuring just transition in the transport sector: The TU members who participated in FGD acknowledged that they have no idea about the Just Transition. On the other hand, the participants in the consultancy meeting claimed that *"The trade Unions had already participated in training on capacity building programs, Social Dialogue offered by the International Labour Organization (ILO). They mentioned some future work plans: Strengthening networking; and awareness-raising Programs like Campaigns, Poster distribution, etc."*

4.6 Preparation of the TUs to address the climate change hazards by ensuring just transition

No preparation: All FGD findings reveal that TUs lack of preparation regarding climate resilience. *"We have no preparation to address the negative impact of climate change from the perspective of just transition among the transport workers."* According to the minutes of the consultancy meeting, the finding is *"TUs are not ready right now to ensure just transition regarding the mitigation of the negative impact of climate change. We have started it but still, the transport sector is informal."*

4.7 Challenges of TUs to ensure green development ensuring just transition

4.7.1 Challenges of TUs

'Just transition' and 'climate change' comparatively new term: TU representative of the platform-based transport service name Uber conceded that the concept of just transition, and climate change are comparatively new term for them. They presented in this way *"The workers are very much concerned about the accommodations and have no chance to think about climate change. Even we do not know the challenges of trade unions regarding this issue"* (Uber TU). The experts acknowledge that *"this concept is very new for the Trade Union"* (Participants of Consultancy meeting).

Lack of funds to play a role by TUs: FGD with Bus TU *"Funding is one of the main concerns. So, fund management, distribution, and allocation are also important."*

Low participation of TU in policy making: TU Participation is missing in policy making. FGDs revealed *"They have no direct participation with the government and policymakers."*

Difficulties in organizing informal transport workers: *"Drivers are floating, so organizing them is very difficult. Workers' fear of organization work, and fear of*

getting involved in lawsuits. Does not want to spend time aside from work. Although they agree on insistence, they forget later. Besides, rickshaw pullers are mostly illiterate so they are not aware of trade unions” (TU members from Paddle Rickshaw).

Overall challenging factors: Participants of Consultancy Meeting said, *“How much we can be able to advocate with the government? Though green development has not been implemented transition is happening in the transport sector. So, our main concerns are guidance mechanisms, adaptation of social protection, lack of participation, etc. One researcher claimed that we have the capacity, but practice is missing.”* One participant claimed that stakeholders, government, policymakers, and all the concerned authorities focus on RMG. Being an informal sector is the most concerning challenge in the transport sector. The TUs are not effectively active in this sector but in only documented organizations.

Existing Law or Policy to mitigate the negative impact of climate change: *“The Labour Act 2006 and the Labour Rules (Amendment) 2022, provide equal status to all workers. There is no distinction between informal and formal. Only domestic workers are excluded from this labour law and everyone else is included in the labour law. We have some limitations. But the government has no policy instrument apart from the law regarding just transition.”* (Government Experts from the participants of the consultancy meeting).

4.7.2 Suggested measures to be taken to face the challenges of climate change while ensuring just transition

Most of the representatives of TU have no idea about green development, just transition and climate change implications.

Creating persistence for inclusion in policy formulation: *“Trade Union can create pressure to include their representative in policy formulation”* (TU representative from Uber).

Participants of the Consultancy meeting suggested the followings:

- Supportive Rules Formation;
- Inclusion of Decent Work and Sustainable Development;
- Ensuring participation in policy Formulation;
- Building awareness through social dialogue;
- Collaboration with International Convention.

4.8 Recommendations to ensure Just Transition in the green development process

4.8.1 Recommendations by the experts in Consultancy meetings, FGD, and KII

Draw the government's attention: *“BILS can work as a catalyst in this aspect and should highlight the perspective of just transition”* (Participants of the consultancy meeting).

Inclusion of workers: “Workers have to engage with Trade Unions and the Government must facilitate the affected persons” (Participants of the consultancy meeting).

“Ensuring participation of transport workers with project implementation authority” (TU members of Battery Rickshaw).

Inception to eco-friendly projects: *“Increasing the eco-friendly projects in transport sectors. For example - water transport around Dhaka city”* (Participants of the consultancy meeting).

“Promoting by Labor Ministry ‘Paddle Rickshaw as eco-friendly’ because paddle rickshaw is not harmful to the climate change” (TU members of Paddle Rickshaw).

Recognition as a formal job sector: *“Government should take the effective steps for the transport sector to turn informal sector to formal sector and also take under the social protection because the workers are always in a vulnerability to job loss”* (Participants of the consultancy meeting).

“BRTA can provide the license to the puller of Battery Rickshaw” (TU members of Battery Rickshaw).

Implementation of law: *“It’s very urgent to implement the labor law in the transport sector”* (Participants of the consultancy meeting).

Ensure compensation: *“The workers have to be ensured for compensation due to the negative impact of climate change on their livelihood through the amendment of the Labor Law”* (Participants of the consultancy meeting).

Ensuring work rights:

Health Services: *“Health Ministry can take an initiative for ensuring better treatment to the workers with a low cost”* (TU members of Battery Rickshaw).

“Proper treatment can be ensured for ricksha pullers in the hospital” (TU members of Paddle Rickshaw).

Social Protection: *“Government should take all the workers in the transport sector under the social protection services like Life Insurance”* (TU members of Battery Rickshaw).

4.9 Findings of KII (Respondents from BILS, ILO, BLF, UNIDO Bangladesh, City Corporation, Ministry of Labor and Employment)

4.9.1 Status of implemented green development initiatives

No effective initiatives: ILO, BLF, UNIDO Bangladesh, and Ministry of Labour and Employment, all organizations mentioned: *“No green Development initiatives have been implemented in the transport sector.”*

Providing support service: Only BILS has taken some service-oriented activities.

“BILS undertook a project targeted to rikshaw pullers to aware them of the effects of climate change especially the effect of heat on their livelihood and support them in organizing so that they can raise their voice. BILS also works with the rikshaw owners for decent living accommodation for the

rickshaw puller, a proper resting place in the rikshaw garage, and provide clean water. BILS directly supply water to the rickshaw pullers during hot days. Please note these are very small initiatives and are done consistently. We need to do more” (BILS).

Waste-to-energy solutions for climate hazards: *“About three thousand metric tons of waste is generated daily by Dhaka North City Corporation. These wastes are deposited in the Aminbazar Landfill every day. It should be noted that a lot of carbon dioxide, methane, propane, etc. gases are generated from these wastes which are a deadly threat to the environment. On December 1, 2021, 4 agreements were accomplished with China Machinery Engineering Corporation to generate electricity from waste. If this project is completed, it will be possible to generate about 42.5 megawatts of electricity daily. In addition, the consultants have suggested that the amount of carbon emissions from the waste will be reduced by about 85%” (Dhaka North City Corporation).*

4.9.2 Role of concern organizations in promoting ‘just transition’ in transport sectors

Not having any role: UNIDO Bangladesh doesn’t work for the workers of transport sectors but the other industries.

Research and advocacy: *“BILS main work to build the capacity of Trade Unions so that they can work for the workers, BILS also initiate policy discussion support the TUs and other organizations for advocacy on the issue. BILS research the effect of just transition to the workers, support TUs to design the strategies for policy advocacy and organize the vulnerable workers” (BILS).*

Awareness building: *“BLF has been playing only awareness building programs through dialogue, sessions, research, etc. in promoting just transition in transport workers. But BLF does have not any initiatives to upskill the workers.” (BLF)*

“ILO has recently started just awareness programs in promoting just transition and also provided many pieces of training and skill development programs to the workers but not the transport workers” (ILO).

4.9.3 Barriers in achieving just transition in the informal sectors

Unorganized and more informal sector: The transport sector is highly informal and unorganized, limiting its ability to collectively influence policymakers or negotiate with owners for fair conditions. Without a centralized database or registration system for informal workers, it becomes difficult to track their numbers, needs, and contributions, limiting targeted support.

“As they are not organized, they can’t influence the policymakers and press the owners for a just transition. There is an absence of a database and registration of informal sector workers.” (BILS)

“We usually ignore the informal sector but almost 80 percent of workers are still working in the informal sectors in Bangladesh” (Representative from BLF).

Limited mobility: The workers in the transport sector do not have other qualifications or skills to shift the profession or to seek better opportunities. *“Mobility from one place to another in the profession is also a barrier”* (BILS).

Lack of vulnerability assessments: *“The absence of vulnerability assessment” is identified another barrier by the representative of BILS. The absence of systematic vulnerability assessments prevents policymakers from understanding the specific risks these workers face, particularly under climate change.*

“Lack of data-driven resources is one of the main barriers to ensure Just Transition in the informal sector” (Representative from BLF).

Absence of required schemes and policies: Without policies or programs specifically addressing their needs, informal workers lack access to resources, training, or protections that could help them transition to more stable livelihoods. *“Absence of a targeted scheme”* for ensuring Just Transition in the transport sector is one of the main challenges identified by BILS.

“Desire of proper initiatives should be raised by the Government and the target group, general workers in transport sectors. Authority has to make new policies to promote just transition.” (UNIDO Bangladesh).

Lack of job opportunities and skilled manpower: *“A huge number of workers are involved in transport sectors, and it is impossible to ensure just transition due to lack of job opportunity. For example, the inception of electric vehicles has taken as a green development project in Bangladesh. The basic questions will be raised: is it affordable? Certainly, the maintenance cost will be high. To minimize the cost and operate the vehicle, we need skilled people. As a result, unskilled workers will lose their jobs, and it is highly challenging to replace unskilled workers in other job sectors. Then, ensuring just transition will be more difficult.”* (ILO Representative)

UNIDO Bangladesh is also mentioned ‘lack of skilled manpower and advanced technology’ as the barrier in just transition in transport sector. The representative of UNIDO Bangladesh drew attention to ensuring just transition in transport sector by taking an initiative to make skilled workers.

“Most of our informal sector workers are unskilled, so to ensure a just transition, workers should be given technical education, and workers should be upskilled. Besides, a large number of job opportunities have to be created.” (Representative of BLF).

Absence of collaborative governance: *“Lack of Public Private Partnership is a mentionable barrier to ensure Just Transition in transport sector workers. It is required to increase the involvement of NGOs with the Government as well as essential to discuss the concept at the national level”* (Representative of BLF).

4.9.4 Plan of the concern organizations for green development ensuring just transition

Planning not yet to commence: UNIDO Bangladesh alluded *“They still have no planning of green development for transport workers but the RMG sector.”* On the

other hand, the Ministry of Labour and Employment cited *“We have no plan right now but if we get recommendations from the research of the Government or other organizations, we will consider it.”*

“ILO has already started its engagement with the RMG concerning sustainability, green development, and climate resilience in the RMG sector. ILO has recently started focusing on transport workers considering the green development through Just Transition” (Representative of ILO).

Conducting research and formulation of TU position paper: *“BILS is conducting a study on just transition and supporting TUs to prepare their joint position and formulate a strategy for advocacy and organizing. BILS will continue this work. Along with this, BILS has started to work with the platform workers. Earlier BILS had nationwide activities with fisheries workers. Once we get the research findings, we will formulate a long-term and national program for the Just Transition. The informal workers will be part of the program.”* (BILS, KII Respondent).

4.9.5 Prioritized factors in policy formulation to protect and support the informal economy regarding climate resilience

Formalization of informal labour economy: *“A formal structure would assist in safeguarding their rights and creating valid documentation. Most of these workers are informal which is the main constraint”* (BILS, KII Respondent).

“Providing formal recognition to the informal economy and ensuring access to the full benefits of formal employment. Because many people want to remain informal because formal organizations have to pay taxes and have many formalities” (UNIDO Bangladesh, KII Respondent).

Strengthening labor rights and job security: It should be focused on ensuring that labor rights, job security, and protections are extended to all workers through labour laws and policies. *“The labourers should be under the labour law which will ensure their job security and other rights”* (BILS, KII Respondent). *“Government has to ensure the labour rights under considering ILO convention”* (UNIDO Bangladesh, KII Respondent).

Policy reform for inclusive labor protections: *“Supportive mandate should be ensured in formulating national policy to protect the informal economy from the negative impact of climate change. Government support must be ensured.”* (BLF, KII Respondent).

“The existing policies should be refurbished and labor rights should be included. Their roles should be defined properly as per the policy as the definitions are often confusing” (BILS, KII Respondent).

“Ensuring all types of protection including social protection, health protection is prioritized to protect and support the informal economy” (ILO, KII Respondent).

Ensuring feasibility before implementing green development projects: *“If we want to put electric buses on the road now, will the drivers we have be able to drive them? Or if they can't drive then where will we shift these drivers? And what about*

the existing buses? Will they become garbage? Regarding these issues, before implementing any project, we have to check the effectiveness and suitability of those projects” (BLF, KII Respondent).

Ensuring decent work: *“Increasing the wage of the workers, decreasing the working hours, and ensuring the workers' rights” are the high priorities of the ILO to protect and support the informal economy.*

Taking joint initiatives: *“Arrangement of Tripartite dialogue is required among the Workers, Government, and Employers under ILO. To take the initiative of green development, the Government should give a subsidy so that the owners do not need to bear the entire pressure”. (ILO, KII Respondent)*

4.9.6 Supports provided by the organizations for the Development and Implementation of suggested policies

Providing suggestions on policy amendment: *“Providing suggestions to ensure compensation to the informal workers who are negatively affected by climate change. Their health is continuously degraded due to the current climate. ILO can provide consultation on wage policy. ILO can highlight distinctly the transport sector in national employment policy” (ILO, KII Respondent)*

“BLF can participate in the national plan of action by addressing the issues.” (BLF, KII Respondent).

“The main purpose of the BILS is to help the concerned authorities and other stakeholders to create, develop, and implement the policies.” (BILS, KII Respondent).

Provision of technical support: *“ILO can provide technical support by researching how the workers reduce their productivity due to climate change.” (ILO, KII Respondent)*

“BILS can conduct in-depth studies and identify the scopes, possible stakeholders and their roles, loops, holes, and possible development tactics.” (BILS, KII Respondent).

“BLF can conduct studies on this issue” (BLF, KII Respondent).

Raising fund: *“ILO can work on raising funds because when we want to work with a beneficiary group, we require funds.” (ILO, KII Respondent)*

Awareness and advocacy programs: *“BILS can do continuous lobbying and advocacy as well as training and awareness programs at the field level which assist in policy formation.” (BILS, KII Respondent).*

The Ministry of Labour and Employment declared that *“Labour and Employment Ministry had no programs right now but we will consider the recommendations of this study. Department of Environment can play a vital role in climate change issues. Ministry of Finance can take the workers under social safety net programs.” (KII Respondent)*

4.9.7 Specific actions at local, national, and international levels to ensure just transition for the workers of the informal sector

Ensuring workers' rights: *“Aware of the worker's rights and possible vulnerabilities*

so that they can understand their basic needs and rights. Advocate with the NGOs and INGOs to make them understand that this concept is used in policy formation and implementation. ILO and other international bodies should monitor and enforce their member countries to implement the existing labor rights and develop as per the requirements. Also, they can take some major initiatives for workers' benefit.” (BILS, KII Respondents).

“Laws must be enforced to ensure worker’s rights” (UNIDO Bangladesh).

Phased approach to just transition: *“A group of people controls the transport sector and it is impossible to ensure Just Transition overnight and it is a process. It can be ensured step by step. When the Pilot project attains success, the process should be continued.” (UNIDO Bangladesh).*

Collaboration among organizations: *“UNDP is interested in working with the informal workers. The Department of Environment also works to protect the environment. UNIDO Bangladesh works for sustainable development.” (ILO, KII Respondent).*

Awareness building programs: *“We have to concentrate on changing the behavioral pattern of the people. It is required to focus on ensuring public realization about climate resilience and just transition. From childhood, our generation is given learning to protect our environment through socialization.” (UNIDO Bangladesh).*

4.9.8 Role of TUs in advocating for the rights and welfare of informal sector workers

Tripartite Consultative Council (TCC): *“Most of the TU are not aware of the climate change issues, they understand the pollution and the health problems. TCC (Tripartite Consultative Council) can discuss and work for policy formation regarding these issues. At the local level, transport workers should be aware of these issues and their rights and responsibilities.” (BILS, KII Respondents).*

“Trade Union can discuss green job, green development with government or other donor partner to ensure just transition to the workers in the informal sector” (ILO, KII Respondent).

Having a position paper: *“Trade unions should have position papers. Besides, trade unions can hold a dialogue with employers and workers every three months. Mapping Dhaka city to reduce climate change damage because not all areas are equally affected. The extent of damage varies from area to area.” (ILO, KII Respondent).*

“Trade Union should prepare a mandate regarding climate change implications and Just Transition.” (BLF, KII Respondent).

Giving priority on worker’s wellbeing: *“Trade union members should have a mindset of working for workers’ welfare. If the Trade Unions work for political interests, if they work for personal interests, then they fail to protect the interests of the workers. The power of TU should be exercised for good cause but not for ill cause.” (UNIDO Bangladesh).* The representative of BLF also agreed with this statement and stated *“Trade Union should change their mindset and behavioral change. TU usually works only for the wage and some rights.”*

Involvement of youth leaders: *“Trade Union should involve the young trade unionist.”* (BLF).

4.9.9 Challenges of TUs in organizing and supporting the workers in the informal economy identified by ILO, BLF, BILS, UNIDO Bangladesh

Unconscious workers: *“No proper appointment letters which makes it difficult to identify the exact number of transport workers. The people have no proper ideas about climate vulnerabilities. As informally, the workers are unable to claim their basic needs and rights. Without the proper database, organizing them is quite difficult to implement their policy rights.”* (BILS, KII Respondent)

Lack of knowledge: *“Most of the Trade Unions don’t have enough knowledge on various aspects. The activists only know the labor law but are unacquainted with the world trends, and new terminologies such as Just Transition. They have no institutional plans for the wellbeing of the workers”* (BLF, KII Respondent).

ILO representative pointed out that *“the trade unions do not have the required capacity to support the informal economy”*.

Not having unity among the TUs: *“All the Trade Unions are not united and they do not take any initiatives as a whole but every Unions has a different mandate. The Trade Union in Bangladesh holds the European mind but not so united as the American mind.”* (BLF, KII Respondent).

UNIDO Bangladesh also mentioned *“Differentiation among the trade unions regarding political ideology is one of the main challenges for the trade union to organize and support the informal sector.”*

Lack of ethical standards: *“The members of TU mainly work with an ill motive. The top leaders of a Union try to achieve their personal goals. They do not usually think about the workers’ interests. For example- when an accident occurred, all the trade union members are united but not for justice.”* (UNIDO Bangladesh, KII Respondents).

Lower participation of youth activists: *“Trade Unions have a lack of young activists. The young generation is acknowledged with trending issues. Their involvement is ensured in the discussion.”* (ILO, KII Respondent).

4.9.10 Role of the concerned Organization to overcome the TU’s challenges

Providing technical support: *“The ILO can offer technical support to raise awareness through discussions, conferences, and other initiatives, enabling the Trade Union to develop a comprehensive position paper. ILO is trying to take the initiative to engage the TU in Just Transition acceleration, job protection, decent work, and so on.”* (ILO, KII Representative).

“BLF can provide catalyst support to the Trade Union for the capacity development to promote Just Transition. We can identify the operational mistakes of the trade union.” (BLF, KII Respondent).

Awareness programs and training: *“We can raise awareness of the TUs and provide necessary training programs. During policy implementation and formation, BILS can assist the TUs with essential documents and other information. Moreover, we can raise awareness and prepare field-level works on climate change, green development, and just transition, as well as overcome the constraints.”* (BILS, KII Respondent)

- Vehicles should ply on roads in such a way that carbon emissions are reduced.
- Old and outdated vehicles that emit black smoke should be banned.
- Regular medical checkups should be arranged.
- Masks must be worn during work.
- Environment friendly green fuel should be used.

4.9.11 Role of city corporation to reduce the negative impact of climate change

“Decarbonization is one of the objectives of the transport sector in the climate action plan of the transport sector of Dhaka North City Corporation. Through decarbonization, the negative impact of climate change on workers in the transport sector will be greatly reduced. However, decarbonization cannot be accomplished in a short period. Mobilization should be brought slowly, and the strategy should be implemented through other departments of the government. Enough environmentally friendly trees should be planted in Dhaka City. It should be noted that the environment department of the city corporation is doing the work of planting trees regularly.” (DNCC, KII Respondent)

The old cars, more than 20 years, should be declared unfit for use and banned from the roads. Moreover, workers should refrain from driving these old vehicles considering their health.

The City Corporation and labor unions will negotiate with the owners to resolve the same. If necessary, city transport services should be run through a single organization (e.g., BRTC) in the state.

Regular health checkups and nutritious meals should be provided to the workers. Special incentives should be provided in this regard.

Chapter-5

Recommendations and Way Forward

5.1. Strengthen awareness and capacity building among workers

5.1.1 Enhance climate literacy

- Launch nationwide awareness campaigns to educate informal transport workers on the impacts of climate change and its direct implications on their livelihoods.
- Collaborate with NGOs, trade unions (TUs), and government bodies to disseminate knowledge about climate risks, green technologies, and sustainable practices.
- Utilize multimedia channels, including radio, mobile apps, and posters, to reach workers in both urban and semi-urban settings.

5.1.2 Capacity development

- Implement skill development programs that train workers in adapting to green technologies, such as electric vehicle (EV) maintenance and operations.
- Organize hands-on workshops and on-the-job training for workers transitioning to newer, sustainable transport models.
- Introduce literacy programs for less-educated workers to enhance their employability in a green economy.

5.1.3 Labor rights awareness

- Conduct seminars and focus groups to educate workers about their labor rights, the concept of just transition, and the importance of union participation.
- Develop user-friendly materials, including pamphlets and short videos, to simplify complex labor laws and rights.

5.2. Promote inclusive and adaptive infrastructure development

5.2.1 Climate-resilient infrastructure

- Invest in infrastructure that mitigates the impact of extreme weather conditions, such as shaded rest areas, well-maintained drainage systems, and flood-resistant roads.
- Build water stations and cooling shelters at key transport hubs to protect workers from heatwaves and dehydration.

5.2.2 Green transportation facilities

- Establish accessible EV charging stations across Dhaka City to encourage the adoption of electric vehicles.
- Provide subsidies or low-interest loans for workers to transition from fossil-fuel-based vehicles to environmentally friendly options.

- Promote hybrid or alternative-fuel vehicles as an interim solution for workers unable to transition immediately to EVs.

5.2.3 Health and safety infrastructure

- Ensure affordable and accessible healthcare facilities near major transport hubs to address workers' exposure to heat stress and pollution.
- Distribute subsidized protective gear such as heat-resistant uniforms, helmets, and masks to enhance safety and comfort.

5.3. Foster institutional and policy support

5.3.1 Integrate informal workers into national policies

- Develop inclusive policies that formally recognize the contributions of informal transport workers to urban mobility and economic growth.
- Establish a database to register informal workers and their specific needs, ensuring their inclusion in policy planning and implementation.

5.3.2 Just transition frameworks

- Create a comprehensive framework to guide the shift to greener practices while safeguarding workers' rights and livelihoods.
- Include provisions for employment protection, reskilling programs, and financial assistance for displaced workers.

5.3.3 Expand social safety nets

- Introduce health insurance schemes, pension plans, and unemployment benefits tailored to the needs of informal workers.
- Provide emergency financial assistance during climate-related disruptions, such as prolonged flooding or heatwaves.

5.4. Trade union engagement and empowerment

5.4.1 Strengthen trade union advocacy

- Support trade unions in advocating for workers' rights in policy discussions related to climate resilience and green transitions.
- Build the capacity of TUs through training and resources to effectively represent informal workers in negotiations.

5.4.2 Collaboration and partnerships

- Foster partnerships between TUs, government bodies, NGOs, and private sector stakeholders to develop integrated solutions for climate adaptation.
- Facilitate joint initiatives, such as green development programs and research studies, to align efforts across sectors.

5.4.3 Data-driven advocacy

- Establish monitoring systems to collect data on the socio-economic impacts of climate change on informal workers.
- Use this data to advocate for targeted interventions, including infrastructure development and financial support.

5.5. International cooperation and knowledge sharing

5.5.1 Global partnerships

- Collaborate with international organizations, such as the ILO and UN, to secure technical expertise and funding for climate resilience projects.
- Advocate for international climate finance mechanisms to allocate resources specifically for informal sector adaptation.

5.5.2 Adopt best practices

- Learn from successful just transition models implemented globally, particularly in urban transport sectors.
- Adapt these practices to Bangladesh's socio-economic context while prioritizing inclusivity and sustainability.

5.5.3 Regional alliances

- Form alliances with neighboring countries facing similar challenges to promote regional solutions and share resources.
- Participate in regional forums to discuss cross-border climate resilience strategies.

5.6. Long-term strategic goals

5.6.1 Formalization of informal economy

- Gradually formalize informal transport work to provide workers with access to legal protections and social benefits.
- Encourage partnerships between informal workers and formal institutions to ease the transition.

5.6.2 Reskilling for emerging green jobs

- Establish dedicated reskilling centers that prepare workers for roles in EV manufacturing, repair, and operation.
- Develop training curricula in collaboration with industry experts to ensure relevance to future job markets.

5.6.3 Sustainable funding mechanisms

- Create a dedicated fund for climate adaptation and green development in the informal transport sector.

- Pool resources from government budgets, private sector investments, and international aid to ensure long-term sustainability.

5.6.4 Community-led initiatives

- Empower local communities to participate in climate adaptation planning and implementation.
- Support worker-led cooperatives to enhance collective resilience and bargaining power.

5.7 Conclusion and way forward

Trade unions are pivotal in ensuring that the transition to a greener transport sector is equitable and inclusive. By advocating for labor rights, fostering worker awareness, and collaborating with stakeholders, TUs can secure the future of informal transport workers in Dhaka against the dual challenges of climate change and economic transition.

Immediate actions, such as awareness campaigns and infrastructure investments, combined with long-term strategies like formalization and reskilling, will secure sustainable livelihoods for these workers. Trade unions must lead the charge in building a resilient, fair, and sustainable transport ecosystem in Dhaka City.

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Appendix: Data Collection Tools

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City	Schedule #		
Tool#1: Interview Schedule for Survey Respondents			
(রিকশা/বাস/লেগুনা/উবার চালকদের থেকে সাক্ষাৎকারের মাধ্যমে পূরণ করতে হবে।)			
(এই গবেষণাটি আবহাওয়া পরিবর্তনের ফলে আপনার কাজের উপর কি ধরনের নেতিবাচক (খারাপ) প্রভাব পড়ছে তা জানা, এবং এ প্রেক্ষিতে আপনার কল্যাণে কি ব্যবস্থা গ্রহণ করা যায় তা নিরূপণের লক্ষ্যে পরিচালিত হচ্ছে। এ জন্য আপনার প্রদত্ত তথ্য খুবই গুরুত্বপূর্ণ। বিধায় তথ্য দিয়ে সহযোগিতা করার জন্য আপনাকে সনির্বন্ধ অনুরোধ জানাচ্ছি। আপনার প্রদত্ত উপাত্ত শুধুমাত্র গবেষণা কাজে ব্যবহৃত হবে এবং সকল উপাত্তের গোপনীয়তা কঠোরভাবে বজায় রাখা হবে। সাক্ষাৎকার চলাকালে আপনি যেকোন সময় নিজেকে প্রত্যাহার করে নিতে পারেন। আপনি সম্মত থাকলে আমি সাক্ষাৎকারটি শুরু করতে পারি। ☐ রাজী নন।)			

(ক) উত্তরদাতাদের পরিচিতি ও আর্থ-সামাজিক পটভূমি

- চালকের ধরণ: ① প্যাডেল রিকশা ② ব্যাটারি রিকশা ③ বাস ড্রাইভার ④ বাস কন্ডাক্টর ⑤ লেগুনা ড্রাইভার ⑥ উবার সিএনজি ⑦ উবার মোটরসাইকেল
- ঢাকা শহরের এলাকা:
- অনুগ্রহ করে আপনার নাম বলুন:
- অনুগ্রহ করে আপনার বয়স বলুন:.....বছর
- আপনার বৈবাহিক অবস্থা কি? ① অবিবাহিত ② বিবাহিত ③ তালাকপ্রাপ্ত ④ পৃথক ⑤ বিপত্নীক
- আপনি কতদূর পড়ালেখা করেছেন?..... শ্রেণি পাস।
- আপনি কি ঢাকায় স্থায়ীভাবে বসবাস করেন?
 - হ্যাঁ- হলে → যে বাসায় থাকেন তার মালিকানা কি? ① নিজ ② ভাড়া করা → মাসিক ভাড়া কত?.....টাকা
 - না, হলে নঃ
- আপনার স্থায়ী বাড়ী কোথায়? উপজেলা.....জেলা.....
- আপনি সাধারণত: কতদিন পরপর ঢাকা আসেন?দিন (মাস হলে দিনে কনভার্ট করে লিখুন)
- প্রতিবারে ঢাকায় কয়দিন থাকেন?দিন (মাস হলে দিনে কনভার্ট করে লিখুন)
- ঢাকায় এসে আপনি কোথায় থাকেন? ① গ্যারেজ/গাড়ি ② মেসে ③ অন্য, কি?.....
- থাকার জন্য ভাড়া দিতে হয়? ① না ② হ্যাঁ → কত? দৈনিক / সাপ্তাহিক / মাসিকটাকা
- আপনার পরিবারে সদস্য কয়জন: ☐ পুরুষ.....জন ☐ মহিলা.....জন ☐ মোট.....জন
- সব মিলিয়ে আপনার পরিবারের আনুমানিক মোট মাসিক আয় কত?.....টাকা
- সব মিলিয়ে বছরে আপনার পরিবারের মোট যে আয় ও ব্যয় হয় তার ভারসাম্য কেমন? ① উদ্ভূত থাকে ② সমান-সমান
 - ঘাটতি পড়ে

(খ) চালকদের কাজ ও কর্মস্থল সম্পর্কিত

- আপনি কতদিন যাবত ঢাকায় এই পেশায় নিয়োজিত আছেন?.....বছর.....মাস
- আপনার বর্তমান কাজটি কি ধরনের? ① পূর্ণকালীন ② খন্ডকালীন ③ মৌসুমভিত্তিক ④ অনিয়মিত/ইচ্ছাধীন
- আপনি দিন-রাতের কোন সময় কাজ করেন?
- সাধারণত: আপনি দিনে (২৪ ঘন্টায়) মোট কয় ঘন্টা কাজ করেন?ঘন্টা
- আপনি সপ্তাহে কয়দিন কাজ করেন?.....দিন
- আপনি যে যানবাহনটি চালান সেটির মালিকানা কার?
 - আপনার নিজের → ১৬.১ কতদিন আগে কিনেছেন?দিন.....মাসবছর
 - অন্যের → ভাড়া/লীজ → ১৬.১ কত সময়ে কত? দৈনিক / সাপ্তাহিক / মাসিক / বাৎসরিক: কত টাকা?টাকা
 - অন্যের → ১৬.১ মজুরি/বেতন, কত সময়ে কত? দৈনিক / সাপ্তাহিক / মাসিক / বাৎসরিক: কত টাকা?টাকা
- আপনার বর্তমান কাজ থেকে সকল খরচ বাদ দিয়ে আপনার (দিনে / মাসে) গড়ে কত টাকা আয় হয়?টাকা

(গ) জলবায়ু পরিবর্তন সম্পর্কে সচেতনতা ও প্রভাব

১৮. আবহাওয়া পরিবর্তনের কারণে ঢাকা শহরের নিম্নে উল্লিখিত ক্ষেত্রগুলোতে আগের তুলনায় কি ধরনের পরিবর্তন এসেছে?

ক্রমিক	ক্ষেত্র	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১	গরমকালের স্থায়িত্ব/দৈর্ঘ্য	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
২	গরমকালে তাপমাত্রা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৩	শীতকালের স্থায়িত্ব/দৈর্ঘ্য	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৪	শীতকালে তাপমাত্রা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৫	বর্ষাকালের স্থায়িত্ব/দৈর্ঘ্য	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৬	বর্ষাকালে বৃষ্টির পরিমাণ	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৭	জলাবদ্ধতা/বন্যা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৮	ঝড়/টর্নেডো/সাইক্লোন	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৯	বজ্রপাতের সংখ্যা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১০	বায়ুদূষণ / বাতাসে ধূলাবালি	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে

১৯. আবহাওয়া পরিবর্তনের কারণে ঢাকা শহরে যেসব পরিবর্তন হয়েছে (তীব্র গরম/বন্যা/বায়ুদূষণ) তা আপনার কাজ ও জীবনের বিভিন্ন ক্ষেত্রে কিভাবে প্রভাবিত করেছে?

ক্রমিক	ক্ষেত্র	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১	কর্মঘন্টা / দৈনিক কাজের সময়	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
২	কাজের/চাকরীর নিশ্চয়তা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৩	যানবাহন পার্টস নষ্ট / মেইনটেন্যান্স খরচ	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৪	রাস্তায় জ্যাম / রাস্তা আটকে যাওয়া	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৫	দূর্ঘটনার সংখ্যা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৬	যাত্রী সংখ্যা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৭	কাজ থেকে আয়	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৮	তীব্র গরমে/ঝড়-বৃষ্টিতে ক্লান্তি	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
৯	কর্মকালীন সময়ে অসুস্থতা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১০	চিকিৎসায় খরচ	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১১	কাজের সময় খাদ্য ও পানীয় খরচ	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১২	আপনার জীবনযাত্রার ব্যয়	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১৩	আপনার পরিবারের সদস্যদের অসুস্থতা	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১৪	আপনার সন্তানদের লেখাপড়া ☐ সন্তান নেই	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১৫	ঢাকায় বাসস্থানে গরমে কষ্ট	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১৬	ঢাকায় বাসস্থানে শীতে কষ্ট	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে
১৭	বর্ষাকালে বন্যা/রাস্তায় পানি জমে যাতায়াতে কষ্ট	অনেক বেড়েছে	কিছুটা বেড়েছে	একই আছে	কিছুটা কমেছে	অনেক কমেছে

২০. আপনি কি কখনো পেশা পরিবর্তন করেছেন? ①না ①হ্যাঁ, হলে হু

২০.১ আগে কোথায়, কি করতেন? কোথায়:..... পেশা:.....

২০.২ ঐ পেশা এবং যায়গা কেন পরিবর্তন করেছেন (বিশেষত: জলবায়ু পরিবর্তন জনিত কারন জানুন)?

(ঘ) আবহাওয়াজনিত বিরূপ পরিস্থিতির সাথে খাপ খাওয়ানো

২১. আবহাওয়ার কারণে সৃষ্ট বিরূপ পরিস্থিতি মোকাবিলায় আপনি কি ব্যবস্থা নেন (একাধিক উত্তর সম্ভব)? ① কিছুই না, সহ্য করেন

① কাজের সময় বদলান ② কর্মঘণ্টা/ট্রিপ কমান ③ ঘন ঘন বিশ্রাম নেন ④ অপ্রতিরক্ষামূলক ব্যবস্থা (যেমন-ছাতা/পোশাক) নেন
⑤ অন্য, কি?.....

২২. আবহাওয়ার কারণে সৃষ্ট বিরূপ পরিস্থিতি মোকাবিলায় আপনাকে কোন সরঞ্জাম (ছাতা/রেইনকোট/হ্যাট/ওষধ ইত্যাদি) কিনতে হয় কি?

①না ①হ্যাঁ, হলে হু

২২.১ কি কি?.....

২২.২ বাৎসরিক আনুমানিক কত টাকা খরচ হয়?টাকা

২৩. আবহাওয়ার কারণে সৃষ্ট বিরূপ পরিস্থিতি মোকাবিলায় আপনার যানে কোন সরঞ্জাম/পরিবর্তন করতে হয় কি? ①না ①হ্যাঁ, হলে হু

২৩.১ কি কি?.....

২৩.২ বাৎসরিক আনুমানিক কত টাকা খরচ হয়?টাকা

(ঙ) কাজের নিরাপত্তা ও ন্যায্য রূপান্তর সম্পর্কিত

২৪. আবহাওয়া পরিবর্তন জনিত কারণে সৃষ্ট বিরূপ পরিস্থিতির যে প্রভাব ভবিষ্যতে আপনার কাজের উপর পড়বে তা নিয়ে আপনি কতটা উদ্বিগ্ন?

① উদ্বিগ্ন নই ② মোটামুটি উদ্বিগ্ন ③ খুবই উদ্বিগ্ন

২৫. আবহাওয়া পরিবর্তন জনিত বিরূপ পরিবেশে ভবিষ্যতে আপনার বর্তমান কাজ চালিয়ে যেতে পারবেন? ①হ্যাঁ, উপায় নেই ② না, হলে হু

২৫.১ কেন?.....

২৫.২ বর্তমান কাজ না থাকলে / করতে না পারলে অন্য ক্ষেত্রে কাজ পাবেন? ①না ①হ্যাঁ, হলে → কোন ক্ষেত্রে?.....

২৬. আপনি কি কোন প্রাতিষ্ঠানিক দক্ষতা প্রশিক্ষণ নিয়েছেন/নিচ্ছেন? ①না ①হ্যাঁ, হলে হু

২৬.১ কোথা থেকে?.....

২৬.২ কি বিষয়ে?.....

২৭. আবহাওয়াজনিত বিরূপ পরিস্থিতিতে আপনাদেরকে সহায়তায় সরকার বা কোন এনজিও কর্তৃক গৃহিত কোন কর্মসূচী আছে বলে জানান কি?

①না ①হ্যাঁ → হলে, কি?.....

২৮. আবহাওয়াজনিত বিরূপ পরিস্থিতি মোকাবিলায় আপনার কি কি সহায়তা প্রয়োজন বলে মনে করেন (একাধিক উত্তর হতে পারে)?

①কোন সহায়তা প্রয়োজন নেই ① আর্থিক অনুদান ② যান আবহাওয়া উপযোগী করতে ঋণ ③ সহজলভ্য চিকিৎসা
④ উন্নত অবকাঠামো ⑤ আবহাওয়া পরিবর্তনের সাথে খাপ খাওয়ানোর প্রশিক্ষণ ⑥ অন্য, কি?.....

২৯. আবহাওয়াজনিত কারণে সৃষ্ট বিরূপ পরিস্থিতি মোকাবিলায় আপনি কখনো কোন সহায়তা পেয়েছেন কি? ①না ①হ্যাঁ, হলে হু

২৯.১ কোথা থেকে?.....

২৯.২ কি সহায়তা?.....

৩০. আপনি নিম্নলিখিত বিষয়গুলো সম্পর্কে কখনো কিছু শুনেছেন?

বিষয়	শুনি নাই	শুনেছি →	কোথা থেকে, কি প্রসংগে?
জলবায়ু পরিবর্তন			
গ্রীন ডেভেলপমেন্ট			
জাস্ট ট্রানজিসন			

(চ) সংগঠন ও অধিকার সম্পর্কিত

৩১. একজন শ্রমজীবী হিসেবে আপনার কী কী অধিকার আছে বলে জানেন (একাধিক উত্তর হতে পারে)? ① কিছুই জানিনা / জানে না
① কাজ/চাকুরির নিরাপত্তার অধিকার ② নিরাপদ কর্ম পরিবেশের অধিকার ③ উপযুক্ত মজুরীর অধিকার ④ সংগঠন করার অধিকার
⑤ সামাজিক নিরাপত্তার অধিকার ⑥ চিকিৎসার অধিকার ⑦ অন্য, কী?

৩২. আপনার পেশার ক্ষেত্রে কাজ করে এমন কোন সমিতি/সংগঠন আছে বলে জানেন কি? ① জানি না ① নাই ② জানি → হলে হু

৩২.১ আপনি কি এ ধরনের কোন সমিতি/সংগঠনের সদস্য? ① না ① হ্যাঁ → হলে হু

৩২.১.১ সংগঠনের নাম কী?

৩২.১.২. সংগঠন কি কি কাজ করে (একাধিক উত্তর হতে পারে)? ① সঞ্চয় ও ঋণদান ② সদস্যদের বিপদে সাহায্য

③ কাগজপত্র ঠিক করতে সাহায্য ④ আইন-শৃঙ্খলা বাহিনীর ঝামেলা দেখ-ভাল করে ⑤ তীব্র গরমে / শীতে সাহায্য করে

⑥ অন্য, কী?

৩৩. আবহাওয়া পরিবর্তনজনিত বিরূপ পরিস্থিতি মোকাবিলায় ট্রেড ইউনিয়ন/সমিতি/সংগঠন কি ভূমিকা রাখতে পারে?

৩৪. আবহাওয়া পরিবর্তনজনিত বিরূপ পরিস্থিতি নিয়ে আপনি কখনো কারো সাথে কোন কথা-বার্তা বলেছেন? ① না ① হ্যাঁ → হলে হু

৩৪.১ কার/কাদের সাথে?

৩৪.২ কি কি বিষয়ে?

৩৪.৩ এ আলোচনার ফলাফল কি ছিল?

৩৫. আবহাওয়া পরিবর্তনজনিত বিরূপ পরিস্থিতি মোকাবিলায় আপনাদের সুবিধার্থে কীভাবে, কী কী ব্যবস্থা নেয়া দরকার বলে মনে করেন?

সাক্ষাৎকারগ্রহণকারীর পূর্ণ স্বাক্ষর:..... তারিখ:.....

সুপারভাইজরের পূর্ণ স্বাক্ষর:..... তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#2A: Guideline for FGD with TU Members

(প্যাডেল ও ব্যাটারি রিকশা, বাস, লেগুনা, ও উবার সেক্টরে কর্মরত শ্রমিক সংগঠনের প্রতিনিধিদের সাথে এফজিডি করতে হবে।)

(এই গবেষণাটি আপনাদের সেক্টরে জলবায়ু পরিবর্তনের কারণে কি ধরনের নেতিবাচক প্রভাব পড়ছে এবং এ প্রেক্ষিতে এই সেক্টরে যেসব পরিবর্তন সাধিত হয়েছে/হচ্ছে তা কতটা ন্যায্য বা শ্রমিকদের অধিকার ও সুরক্ষা নিশ্চিত করছে তা জানা, এবং এ প্রেক্ষিতে শ্রমিকদের অধিকার ও নিরাপত্তা সুরক্ষায় কি ব্যবস্থা গ্রহণ করা যায় তা নিরূপণের লক্ষ্যে পরিচালিত হচ্ছে। শ্রমিক সংগঠনগুলো শ্রমিকদের অধিকার সুরক্ষায় গুরুত্বপূর্ণ ভূমিকা পালন করে বিধায় এ বিষয়ে আলোচনার জন্য আপনাদেরকে সনির্বন্ধ অনুরোধ জানাচ্ছি। আলোচনাটি কম-বেশি এক ঘণ্টা চলতে পারে। ধন্যবাদ।)

■ সেক্টর: ① প্যাডেল রিকশা ② ব্যাটারি রিকশা ③ বাস ④ লেগুনা ⑤ উবার/পাঠাও

১) অনুগ্রহ করে আপনাদের নাম ও সংগঠনে আপনাদের পদবী লিখুন:

ক্রমিক	নাম	জেন্ডার		সংগঠন	সংগঠনে পদবী
		পুরুষ	নারী		
১					
২					
৩					
৪					
৫					
৬					
৮					
৯					
১০					

২) জলবায়ু পরিবর্তনের কারণে ঢাকা শহরে আপনাদের সেক্টরে কি কি প্রভাব পড়ছে / পরিবর্তন হয়েছে?

৩) আপনাদের সেক্টরে শ্রমিকদের জীবন ও জীবিকার উপর জলবায়ু পরিবর্তনের প্রভাব কী?

৪) আপনাদের সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে বা গ্রীন ডেভলপমেন্ট এর জন্য কোন্ কোন্ কর্তৃপক্ষ কি কি ব্যবস্থা নিয়েছে?

৫) আপনাদের সেক্টরে গ্রীন ডেভলপমেন্টের (যদি হয়ে থাকে) মাধ্যমে শ্রমিকদের জন্য কী কী সুযোগ সৃষ্টি হয়েছে (বিশেষত: চাকুরি ক্ষেত্রে)?

৬) এই সেক্টরে গ্রীন ডেভলপমেন্টের (যদি হয়ে থাকে) মাধ্যমে শ্রমিকদের জন্য কী কী চ্যালেঞ্জ/অসুবিধার সৃষ্টি হয়েছে (বিশেষত: চাকুরি ক্ষেত্রে)?

৭) আপনাদের সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে বা গ্রীন ডেভলপমেন্টের জন্য আপনারা, শ্রমিক সংগঠনগুলো কোন পর্যায়ে, কীভাবে জড়িত হয়েছিলেন/হচ্ছেন?

৮) আপনাদের সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে বা গ্রীন ডেভলপমেন্টের জন্য শ্রমিক সংগঠনগুলো কি ভূমিকা রাখতে পারে?

৯) জাস্ট ট্রানজিসন সম্পর্কে আপনাদের ধারণা কি? এ বিষয়ে আপনারা কখনো কোন আলোচনা বা প্রশিক্ষণে অংশগ্রহণ করেছেন কি? কোথায়, কি বিষয়ে আলোচনা/প্রশিক্ষণ?

১০) আপনাদের সেক্টরে গ্রীন ডেভলপমেন্ট প্রক্রিয়া কতটা 'জাস্ট রূপান্তর' হয়েছে/হচ্ছে বলে মনে করেন? অনুগ্রহ করে বিস্তারিত বলুন।

১১) গ্রীন ডেভলপমেন্ট প্রক্রিয়ায় 'জাস্ট ট্রানজিসন' নিশ্চিত করতে ট্রেড ইউনিয়নগুলো কী ভূমিকা রেখেছে/রাখছে/রাখতে পারে?

১২) জলবায়ু পরিবর্তনজনিত নেতিবাচক প্রভাব মোকাবিলায় আপনাদের সেক্টরে 'জাস্ট ট্রানজিসন' নিশ্চিত করে গ্রীন ডেভলপমেন্ট সম্পন্ন করার ক্ষেত্রে ভূমিকা রাখতে ট্রেড ইউনিয়নসমূহ কিভাবে, কতটা প্রস্তুত? ট্রেড ইউনিয়ন কর্তৃক যথাযথভাবে এই ভূমিকা রাখার ক্ষেত্রে কি কি চ্যালেঞ্জ আছে?

১৩) জলবায়ু পরিবর্তনজনিত নেতিবাচক প্রভাব মোকাবিলায় আপনাদের সেক্টরে 'জাস্ট ট্রানজিসন' নিশ্চিত করে গ্রীন ডেভলপমেন্ট সম্পন্ন করার ক্ষেত্রে ট্রেড ইউনিয়নসমূহ ভূমিকা পালনের ক্ষেত্রে যেসব চ্যালেঞ্জ আছে তা মোকাবিলায় কিভাবে, কি কি ব্যবস্থা নেয়া দরকার?

১৪) আপনাদের সেক্টরে গ্রীন ডেভলপমেন্ট প্রক্রিয়াকে 'জাস্ট ট্রানজিসন' করতে কোন্ কোন্ কর্তৃপক্ষ কর্তৃক কী কী ব্যবস্থা নেয়া দরকার?

ফ্যাসিলিটেটরের পূর্ণ স্বাক্ষর:.....তারিখ:.....
রেকর্ডারের পূর্ণ স্বাক্ষর:.....তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3A: Questionnaire for KII for ILO Representative

This research aims to understand the impact of climate change on labourers in selected informal transport sectors (Rickshaw, Bus, Platform) in Dhaka City, and to explore subsequent green development initiatives within the context of a just transition in the sector. The findings will be used to identify measures that can enhance the welfare of labourers in this sector, with a particular focus on the role that trade unions can play. As a leading organization in protecting laborers' rights, the International Labour Organization (ILO) has a significant role to play in this matter. Your data and insights, as an ILO representative, will greatly enrich the findings of this research. Therefore, we request you to kindly provide valuable information by answering the following questions. The information you provide will be used solely for research purposes. Please answer all questions and feel free to use additional pages if necessary. Thank you.

1. Place & Date: Place.....Date:
2. Name:
3. Position:
4. Department:
5. Years of Experience: years
6. Mobile:
7. As an ILO representative, please explain how climate change has impacted the livelihoods of workers in the informal economy, specifically in the rickshaw, transport, and platform sectors in Dhaka City.
8. Do you know any example of successful green development initiatives that have benefited rickshaw pullers, transport workers, and platform economy workers in Dhaka city? What are those?
9. What green development initiatives has the ILO implemented in Dhaka City to mitigate the impact of climate change on the informal economy? How effective are those initiatives? Please describe in detail.
10. What role has the ILO played in promoting “just transition” in the informal sector, especially in the transport sector? Please describe in detail.
11. What are the main barriers to achieving a just transition in the informal sector, especially in the transport sector?
12. Is there any ILO plan to implement/help green development while ensuring “just transition” in the informal sector, especially in the transport sector in Dhaka City? Please describe in detail.
13. Based on your experience and knowledge, what policy measures should be prioritized to protect and support informal economy workers in the face of climate change?
14. How can the ILO support the development and implementation of these policies?
15. What specific actions should be taken at the local, national, and international levels to ensure a just transition for the workers of informal sectors, especially in the transport sector?
16. What role can trade unions play in advocating for the rights and welfare of informal sector workers, especially in the transport sector as they face the impacts of climate change?
17. What challenges do trade unions face in organizing and supporting workers in the informal economy, especially in the transport sector?
18. What role can ILO play to help the trade unions to overcome those challenges?
19. Please tell if you have any other comments to address the impact of climate change in the informal sector and green development ensuring “just transition.”

Interviewer:Date:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3B: Questionnaire for BILS Representative

This research aims to understand the impact of climate change on labourers in selected informal transport sectors (Rickshaw, Bus, Platform) in Dhaka City, and to explore subsequent green development initiatives within the context of a just transition in the sector. The findings will be used to identify measures that can enhance the welfare of labourers in this sector, with a particular focus on the role that trade unions can play. As an apex body of major trade unions, Bangladesh Institute of Labour Studies (BILS) is playing a significant role in this regard. As such, your data and insights, will greatly enrich the findings of this research. Therefore, we request you to kindly provide valuable information by answering the following questions. The information you provide will be used solely for research purposes. Please answer all questions and feel free to use additional pages if necessary. Thank you.

1. Place & Date: Place.....Date:.....
2. Name:.....
3. Position:.....
4. Department:.....
5. Years of Experience:.....years
6. Mobile:.....
7. As a BILS representative, please tell how has climate change impacted the livelihoods of the workers in the informal economy, specifically in the rickshaw, bus transport, and platform sectors in Dhaka City?
8. Do you know any example of successful green development initiatives that have benefited rickshaw pullers, bus-leguna transport workers, and platform economy workers? If yes, what are those?
9. What green development initiatives has BILS implemented in Dhaka City to mitigate the impact of climate change on the informal economy? How effective are those initiatives? Please describe in detail.
10. What role has BILS played in promoting “just transition” in the informal sector, especially in the transport sector? Please describe in detail.
11. What are the main barriers to achieving a just transition in the informal sector, especially in the transport sector?
12. Is there any BILS plan to implement/help green development while ensuring “just transition” in the informal sector, especially in the transport sector in Dhaka City? Please describe in detail.
13. Based on your experience and knowledge, what policy measures should be prioritized to protect and support informal economy workers in the face of climate change?
14. How can BILS support the development and implementation of these policies?
15. What specific actions should be taken at the local, national, and international levels to ensure a just transition for the workers of informal sectors, especially in the transport sector?
16. What role can trade unions play in advocating for the rights and welfare of informal sector workers, especially in the transport sector as they face the impacts of climate change?
17. What challenges do trade unions face in organizing and supporting workers in the informal economy, , especially in the transport sector?
18. What role can BILS play to help the trade unions to overcome those challenges?
19. Please tell if you have any other comments to address the impact of climate change in the informal sector and green development ensuring “just transition.”

Interviewer:Date:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3C: Questionnaire for BLF Representative

This research aims to understand the impact of climate change on labourers in selected informal transport sectors (Rickshaw, Bus, Platform) in Dhaka City, and to explore subsequent green development initiatives within the context of a just transition in the sector. The findings will be used to identify measures that can enhance the welfare of labourers in this sector, with a particular focus on the role that trade unions can play. As an apex body of major trade unions, Bangladesh Labour Foundation (BLF) is playing a significant role in this regard. As such, your data and insights, will greatly enrich the findings of this research. Therefore, we request you to kindly provide valuable information by answering the following questions. The information you provide will be used solely for research purposes. Please answer all questions and feel free to use additional pages if necessary. Thank you.

1. Place & Date: Place:..... Date:
2. Name:
3. Position:
4. Department:
5. Years of Experience.....years
6. Mobile:
7. As a BLF representative, please explain how climate change has impacted the livelihoods of workers in the informal economy, specifically in the rickshaw, transport, and platform sectors in Dhaka City.
8. Do you know any example of successful green development initiatives that have benefited rickshaw pullers, transport workers, and platform economy workers? What are those?
9. What green development initiatives has BLF implemented in Dhaka City to mitigate the impact of climate change on the informal economy? How effective are those initiatives? Please describe in detail.
10. What role has BLF played in promoting “just transition” in the informal sector, especially in the transport sector? Please describe in detail.
11. What are the main barriers to achieving a just transition in the informal sector, especially in the transport sector?
12. Is there any BLF plan to implement/help green development while ensuring “just transition” in the informal sector, especially in the transport sector in Dhaka City? Please describe in detail.
13. Based on your experience and knowledge, what policy measures should be prioritized to protect and support informal economy workers in the face of climate change?
14. How can BLF support the development and implementation of these policies?
15. What specific actions should be taken at the local, national, and international levels to ensure a just transition for the workers of informal sectors, especially in the transport sector?
16. What role can trade unions play in advocating for the rights and welfare of informal sector workers, especially in the transport sector as they face the impacts of climate change?
17. What challenges do trade unions face in organizing and supporting workers in the informal economy, especially in the transport sector?
18. What role can BLF play to help the trade unions to overcome those challenges?
19. Please tell if you have any other comments to address the impact of climate change in the informal sector and green development ensuring “just transition.”

Interviewer:.....Date:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3D: KII Guideline for City Corporation Representative

(ঢাকা দক্ষিণ ও উত্তর এর ট্রান্সপোর্ট শাখার দায়িত্বে থাকা কর্মকর্তার থেকে সাক্ষাৎকারের মাধ্যমে পূরণ করতে হবে।)

(এই গবেষণাটির লক্ষ্য জলবায়ু পরিবর্তনের কারণে ঢাকা শহরের ট্রান্সপোর্ট সেক্টরে কি ধরনের নেতিবাচক প্রভাব পড়ছে এবং এ প্রেক্ষিতে এই সেক্টরে যেসব পরিবর্তন সাধিত হয়েছে/হচ্ছে তা কতটা ন্যায্য বা শ্রমিকদের অধিকার ও সুরক্ষা নিশ্চিত করছে তা জানা, এবং এ প্রেক্ষিতে শ্রমিকদের অধিকার ও নিরাপত্তা সুরক্ষায় কি ব্যবস্থা গ্রহণ করা যায় তা নিরূপণের লক্ষ্যে পরিচালিত হচ্ছে। ঢাকা সিটি কর্পোরেশন এক্ষেত্রে গুরুত্বপূর্ণ ভূমিকা পালন করে বিধায় এ বিষয়ে কিছু তথ্য-উপাত্ত প্রদান করার জন্য আপনাকে আহ্বান জানাচ্ছি। সাক্ষাৎকারটি কম-বেশি ৩০ মিনিট চলতে পারে। ধন্যবাদ।)

1. সাক্ষাৎকার গ্রহণের স্থান ও তারিখ: স্থান:.....তারিখ:.....
2. আপনার নাম:
3. আপনার পদবী:
4. কর্পোরেশনে বিভাগ/শাখা:
5. আপনি কতদিন যাবত এখানে কাজ করছেন?.....বছর
6. আপনার মোবাইল নম্বর: :.....
7. ঢাকা সিটি কর্পোরেশনে কাজের সুবাদে এই শহরের ট্রান্সপোর্ট ওয়ার্কারদের (বিশেষত: রিকশা চালক, বাস ড্রাইভার-কন্ডাক্টর, লেগুনা চালক, উবার/প্যাঠাও চালক) উপর জলবায়ু পরিবর্তনের কি কি প্রভাব লক্ষ্য করেন?
8. আপনি কি সবুজ উন্নয়ন (গ্রীন ডেভেলপমেন্ট) সম্পর্কে জানেন? অনুগ্রহ করে এ বিষয়ে আর একটু বিস্তারিত বলবেন।
9. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে সিটি কর্পোরেশন কর্তৃক এ পর্যন্ত কি কি কর্মসূচী নেয়া হয়েছে? অনুগ্রহ করে বিস্তারিত বলুন।
১০. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে সিটি কর্পোরেশনের ভবিষ্যতের জন্য কি কি কর্মসূচী নেয়া হবে? অনুগ্রহ করে বিস্তারিত বলুন।
11. আপনি কি ন্যায্য উন্নয়ন (জাস্ট ট্রানজিসন) সম্পর্কে জানেন? অনুগ্রহ করে এ বিষয়ে আর একটু বিস্তারিত বলবেন।
12. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে সিটি কর্পোরেশন কর্তৃক যে সব কর্মসূচী নেয়া হয়েছে বা হবে সেগুলোতে ট্রান্সপোর্ট সেক্টরে কর্মরত শ্রমিকদের উপর কি কি নেতিবাচক প্রভাব (চাকরী হারানো, কাজ/আয় কমে যাওয়া, ইত্যাদি) পড়তে পারে? এসব নেতিবাচক প্রভাব মোকাবিলায় সিটি কর্পোরেশনের কোনো পরিকল্পনা আছে কি না? থাকলে কি কি?
13. আপনার অভিজ্ঞতায় ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় কি কি বিষয় অগ্রাধিকার ভিত্তিতে বিবেচনা করা প্রয়োজন?
14. ঐ সব অগ্রাধিকার বাস্তবায়নে সিটি কর্পোরেশনের ভূমিকা কি কি?
15. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব / সবুজ উন্নয়ন / জাস্ট ট্রানজিসন বিষয়ে ট্রান্সপোর্ট সেক্টরের কোনো শ্রমিক সংগঠন কি কখনো আপনাদের সাথে যোগাযোগ করেছিলো? করলে, কোন্ কোন্ সংগঠন? কি কি বিষয়ে যোগাযোগ হয়েছিলো? যোগাযোগের ফলাফল কি কি?
16. ট্রান্সপোর্ট সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় সিটি কর্পোরেশন ও এই সেক্টরের শ্রমিক সংগঠনসমূহের সাথে যৌথ উদ্যোগে কোন কর্মসূচী নেয়ার কোনো সুযোগ আছে কি? থাকলে কোন্ কোন্ ক্ষেত্রে কি কি?
17. ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় সিটি কর্পোরেশনের কোনো ভূমিকা আছে বলে মনে করেন কি? থাকলে কোন কোন ক্ষেত্রে, কিভাবে?

সাক্ষাৎকারগ্রহণকারীর পূর্ণ স্বাক্ষর:.....তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3E: KII Guideline for the Representative from the Ministry of Labour and Employment

(শ্রম ও কর্মসংস্থান মন্ত্রণালয়ের দায়িত্বে থাকা কর্মকর্তার সাথে সাক্ষাৎকারের মাধ্যমে পূরণ করতে হবে।)

এই গবেষণাটির লক্ষ্য বর্তনের কারণে ঢাকা শহরের ট্রান্সপোর্ট সেক্টরে কি ধরনের নেতিবাচক প্রভাব পড়ছে এবং এ প্রেক্ষিতে এই সেক্টরে যেসব পরিবর্তন সাধিত হয়েছে/হচ্ছে তা কতটা ন্যায্য বা শ্রমিকদের অধিকার ও সুরক্ষা নিশ্চিত করেছে তা জানা এবং এ প্রেক্ষিতে শ্রমিকদের অধিকার ও নিরাপত্তা সুরক্ষায় কি ব্যবস্থা গ্রহণ করা যায় তা নিরূপণের লক্ষ্যে পরিচালিত হচ্ছে ও কর্মসংস্থান মন্ত্রণালয় শ্রমবাজার শ্রমজীবীদের জীবনমান উন্নয়ন সংস্থা নিশ্চিত করতে গুরুত্বপূর্ণ ভূমিকা পালন করে বিধায় এ বিষয়ে কিছু তথ্য উপাত্ত প্রদান করার জন্য আপনাকে আহ্বান জানাচ্ছি। সাক্ষাৎকারটি কম-বেশি ৩০ মিনিট চলতে পারে। ধন্যবাদ

১. সাক্ষাৎকার গ্রহণের স্থান ও তারিখ: স্থান.....তারিখ:
২. আপনার নাম:
৩. আপনার পদবী:
৪. বিভাগ/শাখা:
৫. আপনি কতদিন যাবত এখানে কাজ করছেন?.....বছর
৬. আপনার মোবাইল নম্বর:
৭. শ্রম ও কর্মসংস্থান মন্ত্রণালয় কাজের সুবাদে এই শহরের ট্রান্সপোর্ট ওয়ার্কারদের (বিশেষত: রিকশাচালক, বাস ড্রাইভার-কন্ডাক্টর, লেপ্টো চালক ও উবার/প্যাঠাও চালক) এর উপর জলবায়ু পরিবর্তনের কি কি প্রভাব লক্ষ্য করেন?
৮. আপনি কি সবুজ উন্নয়ন (গ্রীন ডেভেলপমেন্ট) সম্পর্কে জানেন? অনুগ্রহ করে, এ বিষয়ে আরো একটু বিস্তারিত বলবেন।
৯. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে শ্রম ও কর্মসংস্থান মন্ত্রণালয় কর্তৃক এ পর্যন্ত কি কি কর্মসূচি নেওয়া হয়েছে? অনুগ্রহ করে বিস্তারিত বলুন।
১০. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে শ্রম ও কর্মসংস্থান মন্ত্রণালয় ভবিষ্যতের জন্য কি কি কর্মসূচি নেওয়া হবে? অনুগ্রহ করে বিস্তারিত বলুন।
১১. আপনি কি ন্যায্য উন্নয়ন (জাস্ট ট্রানজিসন) সম্পর্কে জানেন? অনুগ্রহ করে, আরেকটু বিস্তারিত বলবেন।
১২. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরনে শ্রম ও কর্মসংস্থান মন্ত্রণালয় কর্তৃক যেসব কর্মসূচি নেওয়া হয়েছে বা হবে সেগুলোতে ট্রান্সপোর্ট সেক্টরে কর্মরত শ্রমিকদের উপর কি কি নেতিবাচক প্রভাব (চাকরি হারানো, কাজ/আয় কমে যাওয়া, ইত্যাদি) পড়তে পারে? এসব নেতিবাচক প্রভাব মোকাবেলায় শ্রম ও কর্মসংস্থান মন্ত্রণালয় কোন পরিকল্পনা আছে কিনা? থাকলে কি কি?

১৩. আপনার অভিজ্ঞতা ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবেলায় কি কি বিষয় অগ্রাধিকার ভিত্তিতে বিবেচনা করা প্রয়োজন?
১৪. ওইসব অগ্রাধিকার বাস্তবায়নে শ্রম ও কর্মসংস্থান মন্ত্রণালয়ের ভূমিকা কি কি?
১৫. জলবায়ুপরিবর্তনের নেতিবাচক প্রভাব/সবুজ উন্নয়ন/জাস্ট ট্রানজিশন বিষয়ে ট্রান্সপোর্ট সেক্টরের কোনো শ্রমিক সংগঠন কি কখনো আপনাদের সাথে যোগাযোগ করেছিল? করলে, কোন কোন সংগঠন? কি কি বিষয় যোগাযোগ হয়েছিল? যোগাযোগের ফলাফল কি কি?
১৬. ট্রান্সপোর্ট সেক্টরে জলবায়ুপরিবর্তনের নেতিবাচক প্রভাব মোকাবেলায় শ্রম ও কর্মসংস্থান মন্ত্রণালয় ও এই সেক্টরের শ্রমিক সংগঠনসমূহের সাথে যৌথ উদ্যোগে কোন কর্মসূচি নেওয়ার কোন সুযোগ আছে কি? থাকলে কোন কোন ক্ষেত্রে কি কি?
১৭. ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবেলায় শ্রম ও কর্মসংস্থান মন্ত্রণালয় কোন ভূমিকা আছে বলে মনে করেন কি? থাকলে কোন কোন ক্ষেত্রে, কিভাবে?

সাক্ষাৎকারগ্রহণকারীর পূর্ণস্বাক্ষর:.....তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3F: KII Guideline for Executive Members of Digital Platform-based Transport

(ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং (পাঠাও অথবা উবার) অ্যাপস পরিচালনার দায়িত্বে থাকা কর্মকর্তার থেকে সাক্ষাৎকারের মাধ্যমে পূরণ করতে হবে।)

(এই গবেষণাটির লক্ষ্য জলবায়ু পরিবর্তনের কারণে ঢাকা শহরের ট্রান্সপোর্ট সেক্টরে কি ধরনের নেতিবাচক প্রভাব পড়ছে এবং এ প্রেক্ষিতে এই সেক্টরে যেসব পরিবর্তন সাধিত হয়েছে/হচ্ছে তা কতটা ন্যায্য বা শ্রমিকদের অধিকার ও সুরক্ষা নিশ্চিত করছে তা জানা, এবং এ প্রেক্ষিতে শ্রমিকদের অধিকার ও নিরাপত্তা সুরক্ষায় কি ব্যবস্থা গ্রহণ করা যায় তা নিরূপণের লক্ষ্যে পরিচালিত হচ্ছে। সম্প্রতি অ্যাপসভিত্তিক রাইড শেয়ারিং যাত্রীদের কাছে ব্যাপকভাবে জনপ্রিয়তা অর্জন করেছে। অ্যাপসভিত্তিক রাইড শেয়ারিং সেবা যাত্রীদের সহজ ও নিরাপদ যাতায়াত নিশ্চিত করতে গুরুত্বপূর্ণ ভূমিকা পালন করে বিধায় এ বিষয়ে কিছু তথ্য-উপাত্ত প্রদান করার জন্য আপনাকে আহ্বান জানাচ্ছি। সাক্ষাৎকারটি কম-বেশি ৩০ মিনিট চলতে পারে। ধন্যবাদ।)

১. সাক্ষাৎকার গ্রহণের স্থান ও তারিখ: স্থান: তারিখ:
২. আপনার নাম:
৩. আপনার পদবী:
৪. বিভাগ/শাখা:
৫. আপনি কতদিন যাবত এখানে কাজ করছেন?..... বছর
৬. আপনার মোবাইল নম্বর:.....
৭. ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস পরিচালনা কাজের সুবাদে এই শহরের ট্রান্সপোর্ট ওয়াকারদের (বিশেষত: রিকশা চালক, বাস ড্রাইভার-কন্ডাক্টর, লেগুনা চালক, উবার/পাঠাও চালক) উপর জলবায়ু পরিবর্তনের কি কি প্রভাব লক্ষ্য করেন?
৮. আপনি কি সবুজ উন্নয়ন (গ্রীন ডেভলপমেন্ট) সম্পর্কে জানেন? অনুগ্রহ করে এ বিষয়ে আর একটু বিস্তারিত বলবেন। জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস পরিচালনা পরিষদ কর্তৃক এ পর্যন্ত কি কি কর্মসূচী নেয়া হয়েছে? অনুগ্রহ করে বিস্তারিত বলুন।
৯. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব নিয়ন্ত্রণে ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস পরিচালনা পরিষদ ভবিষ্যতের জন্য কি কি কর্মসূচী নেয়া হবে? অনুগ্রহ করে বিস্তারিত বলুন।
১০. আপনি কি ন্যায্য উন্নয়ন (জাস্ট ট্রানজিশন) সম্পর্কে জানেন? অনুগ্রহ করে এ বিষয়ে আর একটু বিস্তারিত বলবেন।
১১. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস পরিচালনা পরিষদ কর্তৃক যে সব কর্মসূচী নেয়া হয়েছে বা হবে সেগুলোতে ট্রান্সপোর্ট সেক্টরে কর্মরত শ্রমিকদের উপর কি কি নেতিবাচক প্রভাব (চাকরী হারানো, কাজ/আয় কমে যাওয়া, ইত্যাদি) পড়তে পারে? এসব নেতিবাচক প্রভাব মোকাবিলায় পরিচালনা পরিষদ এর কোনো পরিকল্পনা আছে কি না? থাকলে কি কি?

১২. আপনার অভিজ্ঞতায় ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় কি কি বিষয় অগ্রাধিকার ভিত্তিতে বিবেচনা করা প্রয়োজন?
১৩. ঐ সব অগ্রাধিকার বাস্তবায়নে ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস এর পরিচালনা পরিষদের ভূমিকা কি কি?
১৪. জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব / সবুজ উন্নয়ন / জাস্ট ট্রানজিসন বিষয়ে ট্রান্সপোর্ট সেক্টরের কোনো শ্রমিক সংগঠন কি কখনো আপনার সাথে যোগাযোগ করেছিলো? করলে, কোন্ কোন্ সংগঠন? কি কি বিষয়ে যোগাযোগ হয়েছিলো? যোগাযোগের ফলাফল কি কি?
১৫. ট্রান্সপোর্ট সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপসের পরিচালনা পরিষদ ও এই সেক্টরের শ্রমিক সংগঠনসমূহের সাথে যৌথ উদ্যোগে কোন কর্মসূচী নেয়ার কোনো সুযোগ আছে কি? থাকলে কোন্ কোন্ ক্ষেত্রে কি কি?
১৬. ট্রান্সপোর্ট সেক্টরের শ্রমিকদের উপর জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় ডিজিটাল প্ল্যাটফর্মভিত্তিক রাইড শেয়ারিং অ্যাপস পরিচালনা পরিষদের কোনো ভূমিকা আছে বলে মনে করেন কি? থাকলে কোন্ কোন্ ক্ষেত্রে, কিভাবে?

সাক্ষাৎকারগ্রহণকারীর পূর্ণস্বাক্ষর:.....তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#3G: Questionnaire for KII for UNIDO Bangladesh

This research aims to understand the impact of climate change on labourers in selected informal transport sectors (Rickshaw, Bus, Platform) in Dhaka City, and to explore subsequent green development initiatives within the context of a just transition. The findings will be used to identify measures that can enhance the welfare of labourers in this sector, with a particular focus on the role that trade unions can play. As UNIDO is engaged in promoting inclusive and sustainable industrial development to reduce poverty, advance economic growth, and foster environmental sustainability, your experiences and insights, as an UNIDO representative, would greatly enrich the results of the present research. Therefore, we request you to kindly provide valuable information by answering the following questions. The information you provide will be used solely for research purposes. Please answer all the questions. Thank you.

1. Place & Date: Place:..... Date:.....
2. Name:
3. Position:
4. Department:
5. Years of Experience years
6. Mobile:
7. As an UNIDO Bangladesh representative, please tell us how climate change has impacted the livelihoods of workers in informal economy, specifically in the rickshaw, transport, and platform sectors in Dhaka City?
8. Do you know any examples of successful green development initiatives that have benefited rickshawpullers, transport workers, and platform economy workers in Dhaka city? What are those?
9. What green development initiatives has the UNIDO Bangladesh implemented in Dhaka City to mitigate the impact of climate change on the informal economy? How effective are those initiatives? Please describe in detail.
10. What role has the UNIDO Bangladesh played in promoting “just transition” in the informal sector, especially in the transport sector? Please describe in detail.
11. What are the main barriers to achieving a just transition in the informal sector, especially in the transport sector?
12. Is there any UNIDO plan to implement/help green development while ensuring “just transition” in the informal sector, especially in the transport sector in Dhaka City? Please describe in detail.
13. Based on your experience and knowledge, what policy measures should be prioritized to protect and support informal economy workers in the face of climate change?
14. How can UNIDO support the development and implementation of those policies?
15. What specific actions should be taken at the local, national, and international levels to ensure a just transition for the workers of informal sectors, especially in the transport sector?
16. What roles can trade unions play in advocating for the rights and welfare of the informal sector workers, especially in the transport sector as they face the negative impacts of climate change?
17. What challenges do trade unions face in organizing and supporting the workers in the informal economy, especially in the transport sector?
18. What roles can UNIDO play to help the trade unions to overcome those challenges?
19. Please tell if you have any other comments to address the impact of climate change in the informal sector and green development ensuring “just transition”.

Interviewer: Date:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City

Tool#4: Guideline for Consultation Meeting

১) অনুগ্রহ করে আপনার নাম ও সংগঠনে আপনার পদবী লিখুন:

তারিখ:.....

ক্রমিক	নাম	জেন্ডার		সংগঠন	সংগঠনে পদবী
		পুরুষ	নারী		
১					
২					
৩					
৪					
৫					
৬					
৮					
৯					
১০					
১১					
১২					

২) জলবায়ু পরিবর্তনের কারণে ঢাকা শহরে ট্রান্সপোর্ট সেক্টরে কর্মরত শ্রমিকদের উপর কি কি প্রভাব পড়েছে? (স্বাস্থ্য, অর্থনৈতিক, সামাজিক, মানসিক)

স্বাস্থ্য:.....

অর্থনৈতিক:.....

সামাজিক:.....

মানসিক:.....

৩) ট্রান্সপোর্ট সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব হ্রাসকরণে বা গ্রীন ডেভলপমেন্ট এর জন্য কোন্ কোন্ কর্তৃপক্ষ কি কি ব্যবস্থা নিয়েছে?

৪) ট্রান্সপোর্ট সেক্টরে গ্রীন ডেভলপমেন্টের (যদি হয়ে থাকে) মাধ্যমে শ্রমিকদের জন্য কী কী সুযোগ সৃষ্টি হয়েছে (বিশেষত: চাকুরি ক্ষেত্রে)?

৫) ট্রান্সপোর্ট সেক্টরে গ্রীন ডেভলপমেন্টের (যদি হয়ে থাকে) মাধ্যমে শ্রমিকদের জন্য কী কী চ্যালেঞ্জ/অসুবিধার সৃষ্টি হয়েছে (বিশেষত: চাকুরি ক্ষেত্রে)?

৬) ট্রান্সপোর্ট সেক্টরে গ্রীন ডেভলপমেন্ট (যদি হয়ে থাকে) কতটা 'জাস্ট রূপান্তর' হয়েছে/হচ্ছে বলে মনে করেন? কীভাবে?

৭) ট্রান্সপোর্ট সেক্টরে গ্রীন ডেভলপমেন্ট প্রক্রিয়ায় 'জাস্ট ট্রানজিশন' নিশ্চিত করতে ট্রেড ইউনিয়নগুলো কী ভূমিকা রেখেছে/রাখছে/রাখতে পারে?

৮) জলবায়ু পরিবর্তনজনিত নেতিবাচক প্রভাব মোকাবিলায় ট্রান্সপোর্ট সেক্টরে 'জাস্ট ট্রানজিশন' নিশ্চিত করে গ্রীন ডেভলপমেন্ট সম্পন্ন করার ক্ষেত্রে ভূমিকা রাখতে ট্রেড ইউনিয়নসমূহ কিভাবে, কতটা প্রস্তুত? ট্রেড ইউনিয়ন কর্তৃক যথাযথভাবে এই ভূমিকা রাখার ক্ষেত্রে কি কি চ্যালেঞ্জ আছে?

৯) জলবায়ু পরিবর্তনজনিত নেতিবাচক প্রভাব মোকাবিলায় ট্রান্সপোর্ট সেক্টরে 'জাস্ট ট্রানজিশন' নিশ্চিত করে গ্রীন ডেভলপমেন্ট সম্পন্ন করার ক্ষেত্রে ট্রেড ইউনিয়নসমূহ ভূমিকা পালনের ক্ষেত্রে যেসব চ্যালেঞ্জ আছে তা মোকাবিলায় কিভাবে, কি কি ব্যবস্থা নেয়া দরকার?

১০) ট্রান্সপোর্ট সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় কোনো পলিসি / আইন আছে কি? থাকলে কি কি?

১১) ট্রান্সপোর্ট সেক্টরে জলবায়ু পরিবর্তনের নেতিবাচক প্রভাব মোকাবিলায় কোন কোন কর্তৃপক্ষ কর্তৃক কি ধরনের পলিসি/আইন কর্মসূচী নেয়া দরকার?

ফ্যাসিলিটের পূর্ণ স্বাক্ষর:.....তারিখ:.....

রেকর্ডারের পূর্ণ স্বাক্ষর:.....তারিখ:.....

Climate Change Implications and the Status of Just Transition in the Informal Economy: A Case Study on Selected Transport Sectors in Dhaka City
Tool#5: Interview Guideline for Case Study

(ক) উত্তরদাতার পরিচিতি ও আর্থ-সামাজিক পটভূমি

১. অনুগ্রহ করে আপনার নাম বলুন:

২. অনুগ্রহ করে আপনার বয়স বলুন: বছর

৩. আপনার বৈবাহিক অবস্থা কি?

৪. আপনি কতদূর পড়ালেখা করেছেন?.....

৫. আপনার পরিবার সম্পর্কে বিস্তারিত বলুন.....

খ. পেশা বা কাজের প্রকৃতি সম্পর্কিত তথ্য

৬. আপনার বর্তমান পেশা বা কাজ কি? ধরন কেমন? কতদিন এ পেশায় আছেন? দৈনিক কত ঘন্টা কাজ করতে হয় এবং মজুরি নির্ধারণ এর প্রক্রিয়া কেমন?

৭. কোন ঘটনা আপনাকে এই পেশা বেছে নিতে অনুপ্রাণিত করেছে? এই পেশায় আসার ইতিহাস, কেন এবং কিভাবে আসলেন?

৮. আপনি পূর্বে কখনো পেশা পরিবর্তন করেছেন কিনা? করে থাকলে কেন করেছিলেন? জলবায়ু পরিবর্তন জনিত কোন কারণ পেশা পরিবর্তনে ভূমিকা রেখেছিল কিনা?

গ. কাজের উপর জলবায়ু পরিবর্তনের প্রভাব

৯. আপনার দৃষ্টিকোণ থেকে সাম্প্রতিক বছরগুলোতে আবহাওয়ার বা জলবায়ু কিভাবে পরিবর্তিত হয়েছে (গরমকালের স্থায়িত্ব ও তাপমাত্রা, শীতকালের ধরণ, বর্ষাকাল, জলাবদ্ধতা, ঘূর্ণিঝড়, বজ্রপাত ইত্যাদি এর আলোকে)?

১০. সাম্প্রতিক বছরগুলোতে আবহাওয়ার ধরণ এর পরিবর্তনগুলো (যেমন- অতিরিক্ত গরম, বন্যা, জলাবদ্ধতা, ঘূর্ণিঝড় ইত্যাদি) কীভাবে আপনার কাজকে প্রভাবিত করেছে (কাজের ট্রিপ, দৈনিক উপার্জন বা আপনার যাত্রীসংখ্যা, কাজের সময়, যানবাহনের পার্টস, মেইনটেন্যান্স খরচ ইত্যাদিতে)?

ঘ. কর্মসংস্থান এর নিরাপত্তাহীনতা এবং দুর্বলতা

১১. আবহাওয়া পরিবর্তন জনিত বিরূপ পরিস্থিতি আপনার বর্তমান কাজের নিশ্চয়তাকে কোনভাবে প্রভাবিত করেছে কিনা? আপনি কি একজন [রিকশাচালক, বাস চালক, প্ল্যাটফর্ম-ভিত্তিক] চালক হিসাবে আপনার বর্তমান চাকরিতে নিরাপদ বোধ করেন? কেন অথবা কেন না?

১২. যদি আপনি বিরূপ আবহাওয়া বা জলবায়ু-সম্পর্কিত ঘটনার কারণে বর্তমান কাজ চালিয়ে নিতে না পারেন, তাহলে কীভাবে সে পরিস্থিতি মোকাবেলা করবেন? অন্য কোন সেক্টরে আপনার কাজের সুযোগ আছে কিনা?

ঙ. জীবন ও জীবিকার উপর জলবায়ু পরিবর্তনের প্রভাব সম্পর্কিত তথ্য

১৩. আপনার বাসস্থান সম্পর্কে বিস্তারিত বলুন জলবায়ু পরিবর্তনের প্রভাব পড়েছে কিনা বাসস্থানের উপর (গরম, জলাবদ্ধতা ইত্যাদি পরিস্থিতি কেমন)?

১৪. চরম আবহাওয়া কাজ করার কারণে আপনি কি কোনো স্বাস্থ্য সমস্যার সম্মুখীন হয়েছেন (অসুস্থতার ধরন ও মাত্রায় পরিবর্তন)? আপনি কিভাবে এই চ্যালেঞ্জ মোকাবেলা করেন?

১৫. জলবায়ু পরিবর্তন কিভাবে আপনার ও আপনার পরিবারের জীবনযাত্রার ব্যয়কে প্রভাবিত করছে?

১৬. কিভাবে আপনি এই পরিবর্তিত আবহাওয়ার (জলবায়ুর) সাথে খাপ খাইয়ে নেন (আপনার নেওয়া পদক্ষেপগুলো, আর্থিক ক্ষতির পরিমাণ)? চ্যালেঞ্জ কোনগুলো, কেন পারেন না?

৮. অনানুষ্ঠানিক অর্থনীতিতে জাস্ট ট্রানজিশন এবং এর প্রয়োগের ধারণা

১৭. আপনি কি 'জাস্ট ট্রানজিশন' ধারণার সাথে পরিচিত? যদি হ্যাঁ, আপনি কিভাবে আপনার কাজের প্রসঙ্গে এটি সংজ্ঞায়িত করবেন?

১৮. আপনার সেক্টরের কর্মীদের জলবায়ু পরিবর্তনের সাথে খাপ খাইয়ে নিতে সাহায্য করার জন্য আপনি কি ধরনের সহায়তা (যেমন, প্রশিক্ষণ, আর্থিক সহায়তা, স্বাস্থ্য সুরক্ষা) প্রয়োজন বলে মনে করেন?

৯. জলবায়ু পরিবর্তনের প্রভাব মোকাবেলায় ট্রেড ইউনিয়নের প্রভুতি এবং চ্যালেঞ্জের মূল্যায়ন

১৯. আবহাওয়া পরিবর্তনজনিত বিরূপ পরিস্থিতি মোকাবেলায় কোন ধরনের এনজিও, সংগঠন, ট্রেড ইউনিয়ন বা সরকার এর কোন কর্মসূচি সম্পর্কে জানেন কিনা, কোন সহায়তা পেয়েছেন কিনা এবং তারা কোন ধরনের ভূমিকা পালন করতে পারে বিস্তারিত বলুন)?

২০. আপনি কি কোন ট্রেড ইউনিয়নের সদস্য, এবং যদি তাই হয়, তাহলে ইউনিয়ন কীভাবে আপনার কাজের উপর জলবায়ু পরিবর্তনের প্রভাব মোকাবেলা করতে সাহায্য করেছে?

২১. জলবায়ু-সম্পর্কিত সমস্যাগুলি মোকাবেলায় আপনার মতো শ্রমিকদের সাহায্য করার ক্ষেত্রে ট্রেড ইউনিয়নগুলির সবচেয়ে বড় চ্যালেঞ্জগুলি কী কী?

সাক্ষাৎকারগ্রহণকারীর পূর্ণস্বাক্ষর:.....তারিখ:.....

Support for effective and inclusive Trade Unions in Bangladesh



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