

Policy Brief

Bangladesh Institute of Labour Studies - BILS

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Climate change implications and the status of just transition in the informal economy (Rickshaw puller, Transport, Platform economy): Policy recommendations

A. Introduction and Background

1. Introduction

- Climate change disproportionately impacts developing countries and vulnerable communities within the countries.
- Rising temperatures, extreme weather events, and environmental degradation exacerbate the vulnerabilities of informal transport sector workers such as rickshaw pullers, bus service workers, and platform-based transport service providers.
- A just transition is crucial to protect these workers' rights and ensure a sustainable future.
- This policy brief outlines the impacts of climate change on employment security, the role of trade unions in advocating for workers' rights, and policy recommendations to ensure a just transition.

B. Methods

2. Methods

- Mixed methods, i.e., quantitative & qualitative, emphasis on quantitative method

Table-1: Data collection methods

Nature of Data	Data collection method	Data collection approach
Quantitative	Questionnaire Survey	Rickpuller (Battery & Paddle), Bus worker (Driver & Conductor), Leguna Driver, Platform Transport Worker (Uber Motor Bike & CNG)
Qualitative	KII, FGD, and Case Study	Representative from Government agencies, BILS, ILO, trade union leaders, trader union members, Policy makers, City corporation representatives and Executive member of digital platform apps.
	Stakeholder Workshop	BILS/ILO senior study focal and the different TU members.

C. Findings

3. Socio-economic and occupational profile of the informal sector 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.
- **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. Workers 84% permanently living in Dhaka and 90% living in rented house. Despite their essential role in Dhaka's economy, 41.9% of respondents report economic deficits, highlighting widespread financial instability.

4. Awareness about climate change

- All workers aware about climate hazards; 12% very high, 53% high, 32% moderate. 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.

Table-1: Area wise mean score for awareness of transport workers in Dhaka City by transport type

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.

- The effects of climate change—rising temperatures, erratic rainfall, and flooding—disrupt livelihoods, increase living costs, and exacerbate health risks (Table-1). Major adverse impacts of climate change the informal transport sector workers aware are:
 - 1) High temperature in summer season
 - 2) Prolong duration of summer season
 - 3) Extreme air pollution or dust in air
 - 4) Short duration of winter season

- 5) Short duration of rainy season
- 6) Heavy waterlogging/flood
- 7) Lower amount of rain during rainy season

❖ Among the different informal workers covered in this study highest to lowest aware

- 1) Platform transport workers
- 2) Bus workers
- 3) Rickshaw Pullers
- 4) Leguna Workers

5. Impact of climate change

- Informal transport workers face heightened risks due to climate change, including health issues, reduced income, and job insecurity.
- Workers report escalating costs for food, housing, and vehicle maintenance, straining their financial capacity.
- Workers frequently face heat stress, respiratory illnesses from air pollution, and injuries due to unsafe working conditions, all of which elevate healthcare costs.

Table-2: 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

Note: Maximum value for an individual indicator could be -2.00 indicating severe impact.

- Area wise awareness has been presented in Table-2. 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.
 - 1) Increased living costs
 - 2) Sufferings in habitat during summer heat
 - 3) Increased cost of food during work
 - 4) Increased cost of vehicle maintenance
 - 5) Excessive weariness due to acute hot/rain/storm, etc.
 - 6) Increased treatment cost
 - 7) Trouble in vehicle due to flood/waterlog
 - 8) Excessive traffic jam or road block

- 9) Reduced number of passenger
- 10) Frequent illness during work
- 11) Reduced income from occupation
- 12) Frequent sickness of the family members
- 13) Reduced employment security
- 14) Increased number of road accident
- 15) Reduced daily working hours

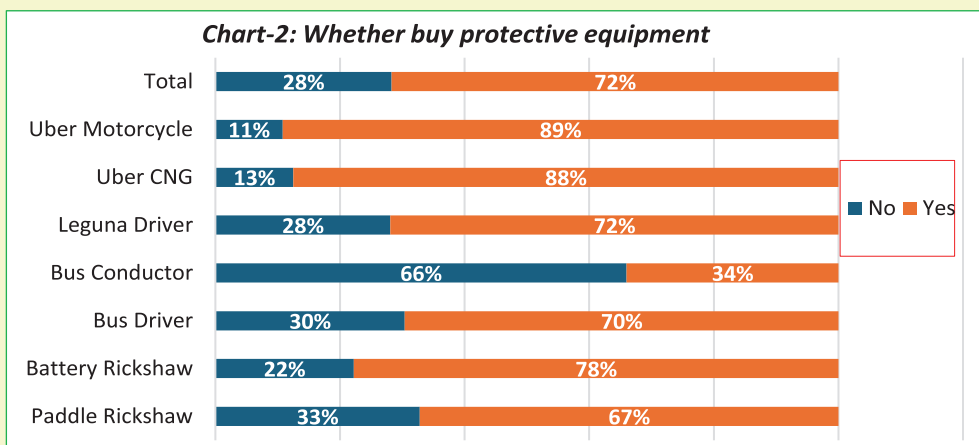
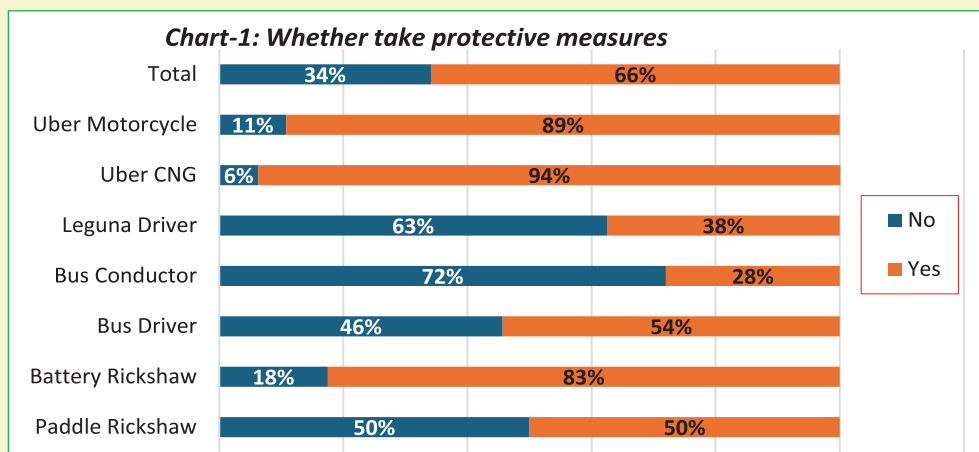
❖ Among the different transport workers covered in the present study highest to lowest adverse impact mentioned are

- ◆ Platform transport workers
- ◆ Bus workers
- ◆ Rickshaw pullers
- ◆ Leguna workers

6. Adaptation and coping mechanisms with adverse effects of climate change

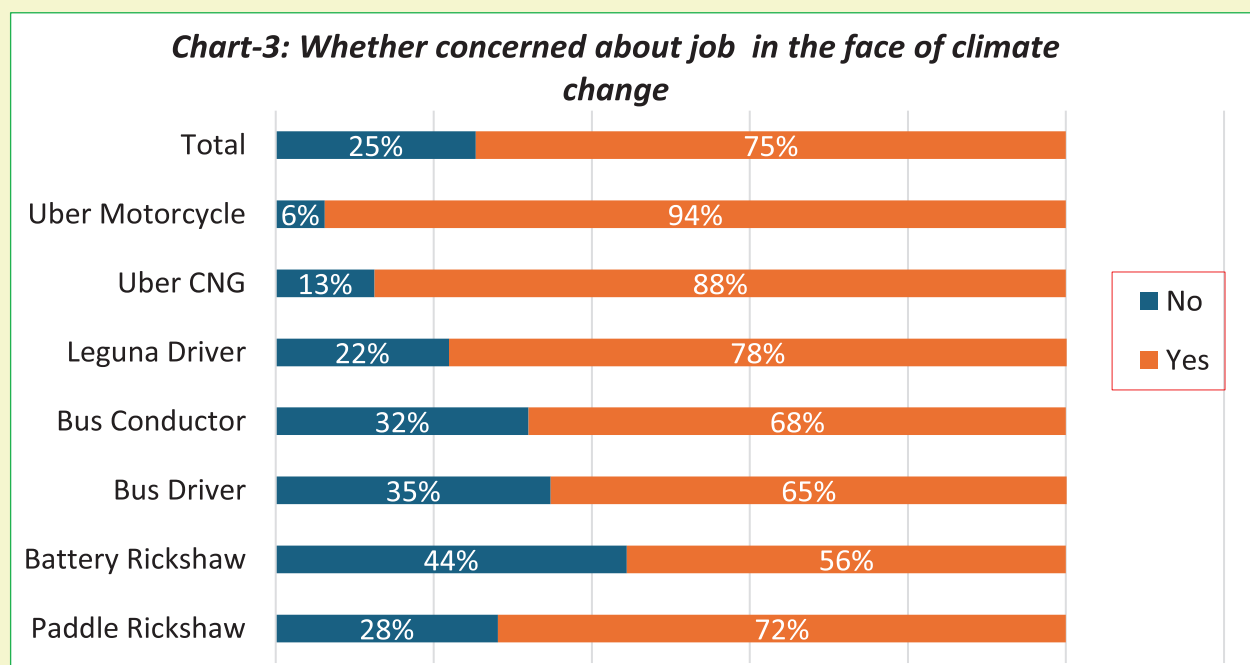
❖ *Protective measures*

- ◆ About one-third of the informal sector workers take protective measures like, use of medicine, raincoat, drinking saline/cold water, hat/cap, etc. and modifying vehicles to improve resilience (Chart-1).
- ◆ Nearly three-fourths of the informal transport workers reported the require to purchase protective protective equipment (Chart-2). However, financial constraints and lack of institutional support limit these efforts as costs about BDT 11872/- annually.



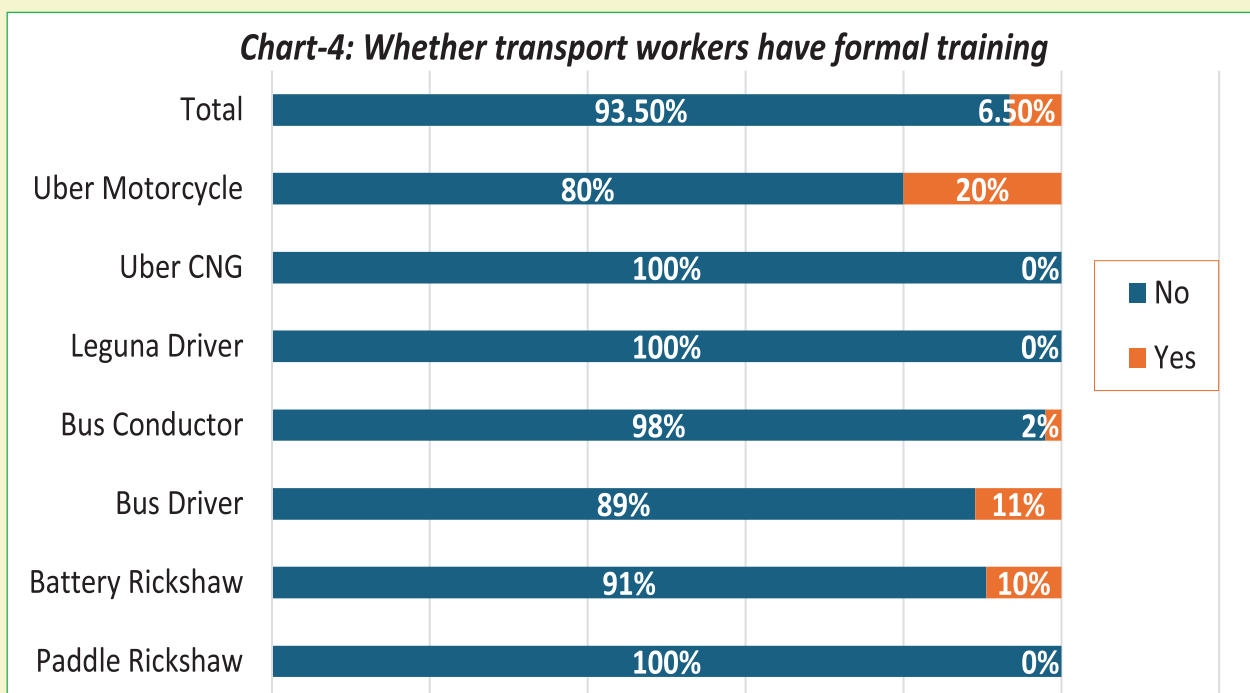
❖ Occupational mobility

- ◆ Climate-induced adversities compel some workers to shift occupations. Three out of four informal transport workers expressed their concern about their job in the sector.
- ◆ Despite that lack of reskilling programs and opportunities within the informal economy restricts their mobility.



❖ Occupational training

- ◆ Only 6.5% of the informal transport workers found have formal training, highest Uber motorcycle 20%.



7. Programs to combat the adverse effects of climate change

- **Knowledge of program:** Almost all transport workers do not know about and program
- **Help received:** No help received to face adverse effects of climate change

Chart-5: Whether transport workers know about any program to face the adverse effect of climate change

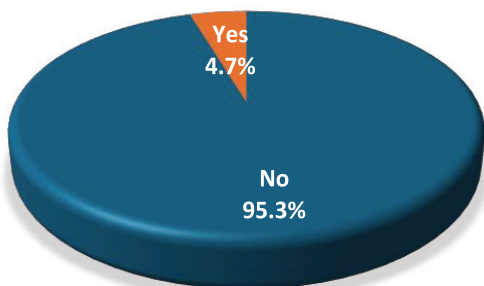
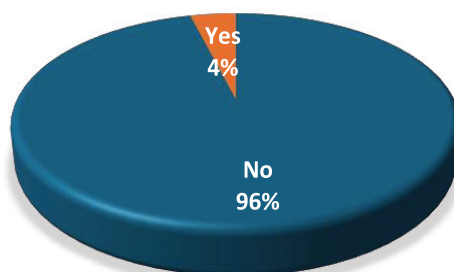


Chart-6: Whether transport workers received any help to face the adverse effect of climate change



8. Knowledge of the transport workers about key terms related to climate change

- The transport workers hardly know about three terms (climate change, green development, just transition)
- Nearly one-third heard about the term 'climate change'

Table-3: Whether heard about key terms related to 'climate change'

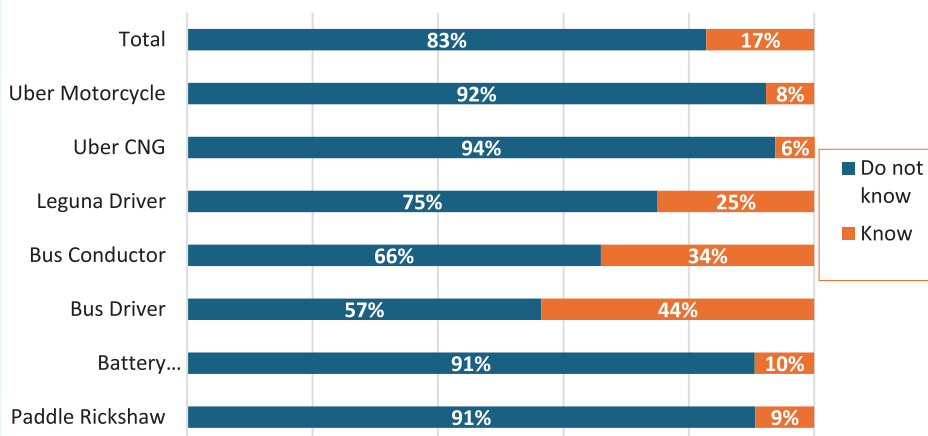
Terms	No	Yes	Total
<i>Climate change</i>	66.9%	33.1%	100.0%
<i>Green development</i>	92.4%	7.6% (29)	100.0%
<i>Just transition</i>	0.0	0.0	0.0

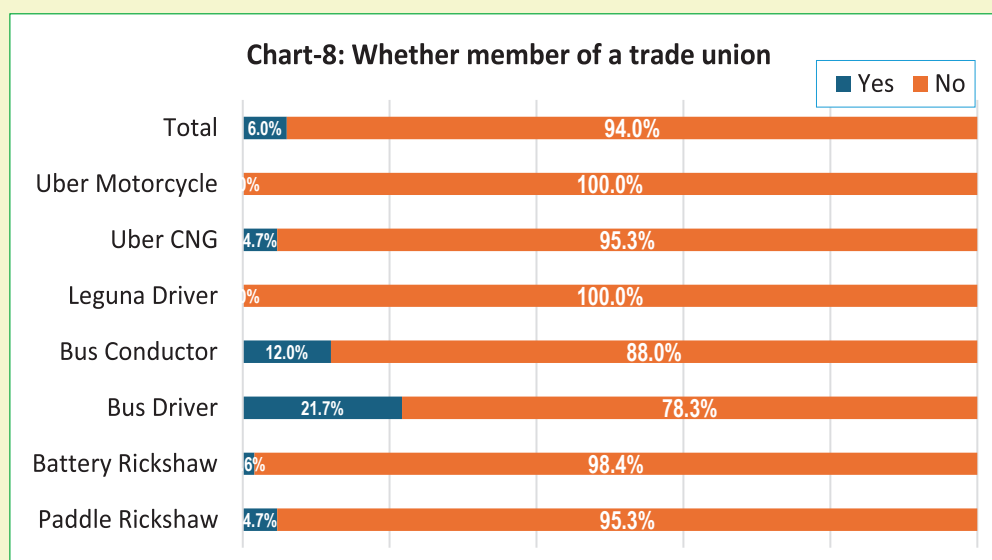
D. Role of Trade Union

9. Knowledge and participation in trade union activity

- ◆ Awareness of labor rights and trade unions (TUs) is extremely low among informal sector transport workers, only 17% know about TU or Samity and only 6% member of a TU or Samity with none of the Uber Motorcycle drivers and Leguna drivers (Chart-7 & 9).
- ◆ TUs play a limited role in advocating for climate resilience and employment security, reflecting a gap in their capacity and engagement.

Chart-7: Whether know about trade union





E. Core Issues

10. Consequences of climate change on transportation workers in dhaka

Climate change issue	Effects on transportation workers	Consequences
Extreme heat	Reduced working hours, increased health risks (heatstroke, dehydration)	Lower income, higher medical expenses, reduced productivity
Flooding & waterlogging	Disrupted transport routes, longer commute times, vehicle damage	Economic losses, job instability, increased repair costs
Environmental regulations	Transition to electric vehicles, bans on traditional transport	Job insecurity for rickshaw pullers & vehicle drivers

11. Key Employment challenges in the informal transport sector

Challenges	Impact on Employment Security
Climate change	Increased heat stress, disruption of transport routes due to flooding, and unpredictable weather patterns affecting income stability.
Regulatory policies	Introduction of green transport regulations may lead to job displacement without adequate transition plans. For example, Metrorail.
Social protection	No formal labor contracts results in no access to healthcare, pension, or financial support during crises.
Trade Union engagement	Informal workers have low union participation due to legal and organizational barriers, reducing their bargaining power.

12. Trade Union challenges in the informal transport sector

Challenges	Issues Faced	Consequences
Lack of membership awareness	Workers unaware of rights & benefits of unions	Low participation, weak collective bargaining
Legal & administrative barriers	Exclusion from labor policies, lack of legal protections	Difficulty in registering and sustaining unions
Limited advocacy power	Financial constraints limit influence on policymakers & employers	Weak policy impact, reduced worker protections
Workforce fragmentation	Diverse employment arrangements prevent unity	Difficulty in mobilizing workers for collective action

13. Policy gaps in employment Security

Policy Gap	Description	Impact on transport workers
Lack of inclusion in labor laws	Informal workers are not covered by national labor laws, leaving them without wage security, benefits, or occupational safety protections.	Increased job insecurity, lack of healthcare and workplace protections.
Absence of climate resilience policies	No dedicated policies exist to help transport workers adapt to extreme weather, floods, or heatwaves.	Higher vulnerability to climate-related income loss and health risks.
Weak social security systems	Informal workers lack access to unemployment benefits, pension schemes, or financial aid.	No financial safety net during crises, leading to extreme poverty risks.

F. Policy Recommendations

14. Overall recommendations

14.1. Promote awareness and capacity building

- Conduct awareness programs for workers and trade unions on climate change impacts and just transition principles.
- Provide training and resources to trade unions to enhance their capacity to advocate for workers' rights and well-being.

14.2. Develop inclusive policies

- Formulate and implement policies that protect informal transport workers from climate change impacts and ensure a just transition.
- Ensure the participation of workers and trade unions in policy formulation and implementation.
- Integrate climate resilience and social protection measures into labor laws and policies.

14.3. Strengthen social protection and support systems

- Provide financial assistance and social protection to workers affected by climate-related disasters.
- Improve access to healthcare and occupational safety measures for transport workers.

14.3. Promote Sustainable Alternatives:

- Invest in and promote eco-friendly transport options and green infrastructure.
- Provide training and support for workers to transition to green jobs.

14.4. Enhance Collaboration and Coordination:

- Foster collaboration among government agencies, trade unions, NGOs, and international organizations to address the challenges of climate change and ensure a just transition.
- Establish a platform for social dialogue to facilitate communication and cooperation among stakeholders.

14.5. Enhancing employment security

- Develop legal frameworks that recognize informal workers and integrate them into social protection systems.
- Implement minimum wage policies and ensure access to workplace safety measures.

14.6. Ensuring a just transition

- Establish government-led retraining programs to help workers shift to sustainable transport jobs.
- Provide financial incentives for workers to transition to green transportation technologies.

14.7. Encouraging multi-stakeholder cooperation

- Promote dialogue between trade unions, government agencies, and international organizations.
- Mobilize funding for climate adaptation initiatives targeted at informal transport workers.

14.8. Strengthening trade union involvement

- Provide financial and organizational support to trade unions for worker advocacy.
- Facilitate policy engagement between trade unions and government stakeholders.

15. Key policy actions for a just transition

15.1. Legal protection

- **Formalize informal transport employment:** Many transportation workers in developing cities, like Dhaka, work in informal sectors with no job security or rights. Formalizing their employment can help integrate them into the legal framework, ensuring access to basic labor rights and protections. This could include clear contracts, defined working hours, and standard wages.
- **Incorporate workers in national labor policies:** Including transport workers in national labor policies ensures that they benefit from the same protections as other workers. It may involve extending labor laws to cover safety standards, fair wages, and dispute resolution mechanisms tailored to their needs.

15.2. Social security

- **Expand access to healthcare:** Many informal workers lack access to basic healthcare services, which can jeopardize their health and ability to work. Expanding healthcare coverage for these workers through affordable plans or subsidies can help address these challenges.
- **Pension schemes:** Pension schemes are essential for workers to ensure financial stability after retirement. For informal transport workers, creating accessible pension options would offer long-term security, especially since they often lack formal retirement plans.
- **Financial aid:** Providing financial aid or unemployment benefits during times of crisis (like economic downturns or climate-related disruptions) would help transport workers manage periods of financial instability, ensuring their livelihood is not entirely dependent on daily work.

15.3. Green transition

- **Reskilling programs:** As the transport industry moves toward greener practices, workers will need to adapt to new technologies and work methods. Offering reskilling programs helps workers learn about electric vehicles, sustainable transport practices, and how to work in eco-friendly industries.
- **Financial incentives:** To encourage the adoption of sustainable transport practices, financial incentives could include subsidies or low-interest loans for workers who wish to switch to electric vehicles or eco-friendly transport options. This could ease the upfront costs and help workers transition without significant financial burden.

15.4. Enhancing climate resilience

- **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.
- **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.
- **Social protections:** Extend social protection schemes to informal workers, including health insurance, subsidized housing, and financial assistance during climate-induced disruptions.

15.5. Promoting just transition

- **Trade Union strengthening:** 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.
- **Reskilling initiatives:** Implement workforce development programs to reskill workers for emerging green jobs, such as operating electric vehicles or maintaining renewable energy systems.
- **Incentivizing green practices:** Encourage the adoption of eco-friendly transport systems through subsidies, tax incentives, and public awareness campaigns.

15.6. Advocacy and multi-stakeholder collaboration

- **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.
- **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.
- **Global partnerships:** Leverage international expertise and funding to support local initiatives for climate resilience and green development.

Support for effective and inclusive Trade Unions in Bangladesh



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