

POLICY RECOMMENDATIONS

STRENGTHENING HEALTH PROTECTION FOR INFORMAL OUTDOOR WORKERS IN THE CONTEXT OF CLIMATE CHANGE IN HANOI

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1. BACKGROUND

Climate change is becoming one of Vietnam's major development challenges. International assessments consistently identify Vietnam as one of the countries heavily affected by extreme weather events, including prolonged heat, severe storms, heavy rainfall, flooding and sea-level rise. These impacts extend beyond environment and infrastructure, directly affecting people's health, livelihoods and quality of life.

As Vietnam's capital and political and administrative centre, Hanoi is developing rapidly while also facing several climate and environmental risks.

In this context, informal outdoor workers are among the groups most vulnerable to climate change, yet they are not fully recognised within existing policies. They include street vendors and lottery-ticket sellers, traditional motorcycle taxi drivers and app-based ride-hailing drivers, construction workers, porters and transport workers, waste and recyclable collectors, and many other service workers operating in markets, bus stations, residential areas, construction sites and public spaces.

These workers help sustain many of the city's essential day-to-day activities. They often work outdoors for long hours and depend on what they earn each day. Stopping work because of severe or hazardous weather can therefore mean an immediate loss of income. Many have limited knowledge and practical skills for protecting their health, lack appropriate protective equipment, and face difficulties in accessing insurance, health care, livelihood support and social protection.

Hanoi has introduced a range of policies and programmes on climate change adaptation, green urban development, environmental improvement, primary health care and social protection. Existing policies provide important foundations in areas such as climate change, preventive health measures, occupational safety and health, employment and social protection. However, these policy areas are





largely addressed separately, meaning that the combined climate, health and livelihood risks faced by informal outdoor workers are not yet consistently addressed.

2. SUMMARY OF THE RESEARCH AND POLICY REVIEW

These policy recommendations draw on two complementary sources of evidence conducted by the Vietnam Medical Association (VMA) and the Institute for Development and Community Health (LIGHT): field research in four major cities and a review of relevant legal and policy documents. Both were undertaken as part of the Wellcome-funded research project, The Health Impacts of Climate Change on Precarious Outdoor Workers in Vietnam's major cities. The research programme is led by the National Centre for Social Research (NatCen), United Kingdom, in collaboration with VMA, LIGHT, the SocialLife Research Institute and the University of Bristol. The Medical Associations of Ho Chi Minh City, Da Nang and Can Tho contributed to the implementation of the research in the study cities.

Source 1: Field research in four major cities - Hanoi, Da Nang, Ho Chi Minh City and Can Tho (May–December 2025)

- A quantitative survey of 1,208 informal outdoor workers in four occupational groups (street vendors/lottery-ticket sellers, traditional/app-based motorcycle taxi drivers, porters/transport workers, and construction workers), including 400 participants in Hanoi.
- The qualitative research comprised 76 in-depth interviews and eight focus-group discussions involving 48 participants.



Source 2: Review of 45 policy documents (2024)

- A systematic review of legal and policy documents relating to climate change, labour, health and social protection at both central and local levels.

The research was funded by the Wellcome Trust, and conducted by the Vietnam Medical Association (VMA), the LIGHT Institute for Community Health Development and the Ho Chi Minh City Medical Association, with technical and financial support from the National Centre for Social Research (NatCen), United Kingdom.

3. KEY RESEARCH FINDINGS

3.1. Hanoi faces a pattern of "cumulative exposure"

Hanoi has a different risk profile from the other three study cities. Workers are exposed not only to heat, but also to heavy rain, flooding, storms and thunderstorms, cold weather, air pollution, traffic emissions, noise and prolonged working hours.

During the 12 months before the survey, workers in Hanoi reported the following exposures:

- 95.8% of surveyed workers in Hanoi reported exposure to hot weather.
- 78.3% had been exposed to heavy rain.
- 63.7% had experienced flooding where they lived or worked.
- 74.6% had been exposed to storms or severe thunderstorms of Force 8 or above.
- 84.0% reported exposure to cold weather, substantially higher than in the other three cities.

In addition to this range of weather exposures, working time in Hanoi was also long:

- Average working time was 8.7 hours per day.
- 66.2% worked seven days a week.
- This was the highest proportion of respondents working seven days a week among the four study cities.

These findings suggest that protecting the health of outdoor workers in Hanoi requires consideration of multiple climate-related risks together. Attention should not be limited to heat, but should also include heavy rain, flooding, storms, cold weather and pollution.

3.2. Socio-economic conditions increase vulnerability

- Informal outdoor workers in Hanoi have a number of characteristics that limit their capacity to protect themselves and recover after adverse weather events.
  - 77.2% were temporary residents — the highest proportion among the four cities.
  - 73.2% were living in rented accommodation or boarding houses.
  - 32.0% were living in temporary housing.
- The average length of residence in Hanoi was 12 years, indicating that these workers form a relatively stable part of the urban workforce rather than a short-term resident population.
- 64.9% had one to three economic dependants; on average, each worker supported an average of 1.5 dependants.
- 66.2% worked all seven days of the week.
- 8.7% also had additional jobs.
- 71.3% had health insurance, compared with national health-insurance coverage of 95.2% at the end of 2025.

Among surveyed workers in Hanoi who had health insurance, 83.9% paid the contribution themselves, while 15.4% reported receiving government support towards the contribution.

These characteristics mean that when adverse weather forces workers to reduce or stop work, the loss is not limited to their own earnings but directly affects household livelihoods. Cramped, hot and



poorly equipped housing may also reduce their ability to recover after a day of outdoor work involving multiple exposures.

The findings also indicate that strengthening workers' resilience requires attention to health care, insurance, living conditions, occupational safety and livelihoods. Raising awareness or relying on individuals to adapt on their own is unlikely to be sufficient.

3.3. Effects on physical health and ability to work are already evident

- When asked about the effects of extreme weather events:
  - Self-reported effects of extreme weather events included: 69.8% saying their physical health had been affected; 37.0% reporting effects on work and livelihoods; and 17.5% reporting effects on property.
  - 37.0% said their work and livelihoods had been affected.
  - 17.5% said their property had been affected.
- Commonly reported health problems included musculoskeletal aches and pain after work; coughing, shortness of breath and other respiratory symptoms; fatigue, headache, dizziness and a sense of dehydration on hot days; as well as risks of slipping, motorcycle falls and other accidents during heavy rain, flooding or storms.
  - 26.8% reported having experienced a work-related accident associated with hot weather during the 12 months before the survey.
  - 6.8% reported an accident during heavy rain or severe storms.
  - 7.8% experienced an accident when the weather suddenly turned cold - the highest proportion among the four study sites.

The qualitative research found that many workers continued working in adverse weather because taking time off meant losing that day's income, with consequences for themselves, their families and dependants. This can contribute to poorer health, a greater risk of accidents, disruption to work and additional health-care costs.

These findings show that effects on health and ability to work are already evident rather than only a future risk. Protecting this group will therefore require greater emphasis on prevention, early warning, early detection and reducing risks in outdoor working environments.

3.4. Mental health is an important concern

Alongside physical health effects, mental health also emerged as an important concern in Hanoi.

- Based on workers' own assessment, 38.5% said their mental health had been affected by weather events.
- Assessment using the DASS-21, a standardised instrument used to screen for symptoms of depression, anxiety and stress, found that in Hanoi. This brief presents the anxiety and stress components of the assessment:
  - 44.1% showed symptoms of anxiety ranging from mild to extremely severe - the highest proportion among the four cities. This included 12.0% mild, 27.0% moderate, 3.3% severe and 1.8% extremely severe.



  - 16.0% showed symptoms of stress ranging from mild to extremely severe: 8.8% mild, 5.2% moderate, 1.8% severe and 0.3% extremely severe.

These two sets of figures measure different outcomes. The first records whether workers felt that weather events had affected their mental health, while the DASS-21 screens for symptoms of anxiety and stress using a standardised set of questions. The figures should therefore be interpreted separately rather than compared directly. Nevertheless, both indicate that mental health is an important concern among informal workers in Hanoi.

In-depth interviews also identified recurring concerns about loss of income, health-care costs, maintaining employment and family care responsibilities.

These findings suggest that mental health should be included as a component of health protection, primary care and climate adaptation programmes for informal outdoor workers.

3.5. Adaptive capacity and access to support remain limited

- Among the four study cities, workers in Hanoi showed comparatively better coping practices. Even so, their capacity for self-protection remained limited and was still based largely on personal experience.

Assessment of coping capacity found that 55.2% were below the average level, 39.8% were at the average level and only 5.0% were above average.

- Common coping measures included wearing sun-protective clothing or raincoats, using face masks, carrying drinking water, stopping work temporarily during heavy rain, or finding shade when possible.

These measures are useful, but are not sufficient in the face of prolonged exposure and multiple overlapping risks.

- Workers in Hanoi expressed clear needs for support:
  - 85.2% wanted support to enrol in or maintain health insurance.
  - 80.0% wanted support with the cost of care at primary health-care facilities.
  - 77.8% wanted public rest stations offering shelter from heat, rain and extreme weather.
  - 59.5% wanted support to participate in social insurance.
  - 54.5% wanted opportunities to move into work less affected by climate change.
  - 54.0% wanted training on occupational safety and health under severe weather conditions.
  - 47.8% wanted support for vocational training or changing jobs.

These findings show that workers need more than information. They also need practical and accessible forms of support that can be used in daily life, including insurance, primary health care, rest stations, early warnings, safety skills and more suitable livelihood opportunities.



4. POLICY RECOMMENDATIONS

RECOMMENDATION 1. INTEGRATE HEALTH PROTECTION FOR INFORMAL OUTDOOR WORKERS INTO CLIMATE ADAPTATION AND SUSTAINABLE URBAN DEVELOPMENT PROGRAMMES

In Hanoi, protecting the health of this group sits at the intersection of climate adaptation, urban management, public health, occupational safety, employment and social protection. The approach should give priority to prevention and early detection, while combining improved knowledge with better infrastructure, wider access to health care and insurance, and greater opportunities for livelihood transition.

The Hanoi People's Committee may consider recognising informal outdoor workers as a vulnerable group requiring attention in plans for climate adaptation, green urban development, pollution reduction, disaster risk management and community health care.

Relevant programmes and plans could include appropriate monitoring indicators, such as access to early warnings, health insurance coverage, access to public rest stations, primary health-care services and occupational safety programmes for this group.

RECOMMENDATION 2. DEVELOP EARLY-WARNING ARRANGEMENTS AND HEALTH PROTECTION GUIDANCE THAT REFLECT HANOI'S MULTIPLE CLIMATE RISKS

Hanoi could consider developing health guidance and action plans covering heat, air pollution, heavy rain, flooding, storms and cold weather.

Warnings should be concise, easy to understand and linked to practical actions for different occupational groups.

Warnings could be disseminated through smartphones, social media, delivery and ride-hailing apps used by drivers and delivery workers, ward loudspeaker systems, neighbourhood groups, market and bus-station management boards, boarding-house areas and other places where outdoor workers gather, as well as through app-based companies such as Grab and Xanh SM.

RECOMMENDATION 3. DEVELOP A NETWORK OF HEALTH PROTECTION REST STATIONS IN PUBLIC SPACES

With 77.8% of workers in Hanoi expressing a need for public rest stations, the city could pilot the provision of Health Protection Rest Stations offering shelter from heat and rain and basic health support at markets, bus stations, parks, delivery and collection points, areas where app-based drivers gather, construction sites and streets with large numbers of outdoor workers.

Each rest station could provide shade, drinking water, public toilets, weather and health warnings, basic first-aid guidance and information on how to contact the nearest commune or ward health station. These measures could be incorporated into existing public facilities, urban upgrading and the development of public spaces.

RECOMMENDATION 4. STRENGTHEN THE ROLE OF PRIMARY HEALTH CARE IN PREVENTION, EARLY DETECTION AND HEALTH CARE

The Hanoi Department of Health could consider piloting a model of "Climate-Resilient and Informal Outdoor Worker-Friendly Health Stations" in areas with large numbers of workers and temporary residents.

The model could include:

- Health advice and counselling on heat, air pollution, storms and heavy rain, cold weather and basic first aid.
- Screening for heat-related, respiratory, cardiovascular, musculoskeletal, and chronic conditions.
- Initial counselling and screening for anxiety and stress, with referral where needed.
- A mobile health team providing health check-ups at markets, bus stations, boarding-house areas and other places where workers gather.
- Advice on health insurance and voluntary social insurance, with links to relevant support services.

The health sector should also consider giving this group priority for comprehensive health checks under relevant publicly funded health-check programmes and other primary health-care programmes.

RECOMMENDATION 5. EXPAND ACCESS TO HEALTH INSURANCE, SOCIAL INSURANCE AND CLIMATE-RESILIENT LIVELIHOOD OPPORTUNITIES

- Agencies responsible for social protection, employment and insurance could work together to provide flexible forms of advice and support for informal workers, including temporary residents and workers in markets, bus stations, construction sites, boarding-house areas and digital platform-based work.
- Alongside wider access to health insurance and voluntary social insurance, attention should be given to short training courses, flexible learning schedules, career-transition advice and links to jobs less affected by weather. This reflects a clear need: 54.5% of workers wanted work that was less affected by climate change, and 47.8% wanted support for vocational training.

RECOMMENDATION 6. STRENGTHEN WORKER PARTICIPATION AND PROMOTE CO-DESIGN OF SOLUTIONS

- Solutions are more likely to be relevant and accepted when workers themselves are involved in identifying risks and needs, designing responses and monitoring implementation.
- Hanoi could pilot co-design activities in selected wards with large numbers of informal workers, involving primary health-care providers, neighbourhood groups, market management boards, social organisations, platform companies and representatives of different occupational groups.

This approach can strengthen knowledge and coping skills while helping to ensure that rest stations, warning information, health services and social support are designed and delivered around workers' actual needs, without creating additional procedures or barriers.

5. CONCLUSION

The findings show that informal outdoor workers in Hanoi face a distinctive and complex combination of risks. Heat, heavy rain, flooding, storms, cold weather and urban pollution occur alongside long working hours, unstable incomes and limited social protection coverage.

The effects of climate change on workers' physical and mental health are already apparent. The study also found substantial demand for support with insurance, health care, public rest stations, occupational safety and opportunities to change jobs.

Hanoi has strong foundations on which to become a leading city in integrating health protection for informal outdoor workers into climate adaptation, primary health care, urban management and social protection. Investment in this group would not only reduce immediate risks, but also help protect the workforce, sustain essential services and strengthen the capital's resilience in the years ahead.











A GREEN, HEALTHY AND CLIMATE-RESILIENT CAPITAL MUST ALSO PROTECT THE PEOPLE WHO WORK EVERY DAY IN HEAT, RAIN AND STORMS, COLD WEATHER AND POLLUTION.

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