

COUNTRY REPORT

“Co-Designing Ethical Climate-Health Strategies: Exploring Trade-offs and Priority-Setting with Women Workers in Jakarta, Indonesia”

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I. BACKGROUND

Climate change poses profound direct and indirect risks to human health worldwide, particularly in the Global South, where healthcare constraints exacerbate vulnerabilities to heatwaves, flooding, and vector-borne diseases such as malaria and dengue. Beyond physical health, mental health burdens escalate via eco-anxiety, post-disaster trauma, and chronic stress, affecting 10-20% of exposed populations and correlating with higher suicide rates in vulnerable regions (WHO 2022; Cianconi et al. 2020).

Climate change also disrupts livelihoods through crop failures and fishery declines—costing up to 2.6% of global GDP annually—and forces migration, with 21.5 million people displaced yearly by weather extremes (IPCC 2022; ILO 2021). Socially, these stressors exacerbate gender inequities—women face disproportionate unpaid care burdens during crises—erode community cohesion, and widen inequalities along racial and economic lines (WHO 2022).

In the context of climate-health decision-making, epistemic justice calls for the inclusion of those with relevant experiential knowledge of the health effects of climate change, as well as experience of particular climate interventions or participations in research. Communities often possess insider knowledge of how climate-related effects shape their own and others’ lives.

However, the research priorities identified by community members frequently differ from those emphasized by politicians, clinicians or other experts. Attending to community knowledge is therefore not only substantively valuable but also an expression of respect for communities’ status as knowledge-bearers or epistemic agents (Pratt et al. 2024). Epistemic justice goes beyond incorporating community perspectives as a limited component of consultation (as may be the appropriate limit of research ethics-grounded justice); rather, it supports deeper forms of engagement in which communities participate in setting research agenda, co-designing research and policy, shaping data collection and interpretation, and influencing how findings are disseminated and use (Pratt 2021).

This is particularly important for communities that are often marginalized or discredited as knowers, including people with mental health conditions, indigenous or minority ethnic communities, children, and those living with contested illnesses such as chronic fatigue syndrome. These groups frequently experience their accounts of their own care, needs, and interests being dismissed or overlooked (Groot et al. 2024). To address these epistemic injustices, communities selected for participation should be identified with their experiential knowledge in mind and may require appropriate training or support to enhance scientific literacy and enable meaningful engagement (Hutchison, Rogers and Entwistle 2016).



In Indonesia, these global dynamics intensify amid rapid urbanization and biodiversity loss. Temperatures have risen 0.3°C per decade since the 1980s, boosting heat-related admissions by 20-30% and dengue cases twofold during El Niño events (Ministry of Environment and Forestry 2025; Ministry of Health Indonesia 2024). Coastal sea-level rise endangers 42 million people, while fragmented policies marginalize indigenous perspectives and gender risks (IPCC 2022; World Bank 2021).

Yet, evidence to guide the implementation of feasible and context-specific strategies to protect health through climate adaptation and mitigation measures remains limited. Failures to take into account appropriate evidence and develop research and policies to address links between climate change and health also perpetuate both epistemic (knowledge-related) and procedural (process-related) injustices. This is because epistemic injustices occur where communities experiencing the health and other effects of climate change-related events have relevant experience and knowledge that seems under-valued if it is not used to inform priority-setting and other activities for climate-health interventions. Relatedly, procedural injustices occur where the residents of a country are not given appropriate opportunities to have their voices heard in the development of government policies that will affect them.

Moreover, limited community engagement risks reproducing procedural and epistemic injustices, by excluding affected populations from fair decision-making processes and by undervaluing their experiential knowledge (Pratt et al. 2020). These ethical shortcomings not only compromise the legitimacy of climate-health initiatives but may also exacerbate distributive injustices, as interventions risk benefiting more powerful groups while leaving existing health inequities unaddressed.

This project addresses both the evidence gaps for grounding climate-health research and policy priorities, and addresses epistemic and procedural justice concerns by exploring the appropriate role for community consultation, as well as directly exploring communities' views of adaptation and mitigation priorities, to ensure that affected communities are meaningfully involved in setting priorities for climate-health research and policy.

II. PROJECT SITE DEMOGRAPHY AND CLIMATE CONTEXT

Indonesia, is the world's largest archipelagic state, consisting of more than 17,500 islands with over 81,000 kilometers (km) of coastline, a population of 270.6 million as of 2019 and the largest economy in Southeast Asia. The country's islands are home to an extremely varied geography, topography, and climate, ranging from sea and coastal systems to peat swamps and montane forests which make it vulnerable to climate change impacts, including extreme events such as floods and droughts, and long-term changes from sea level rise, shifts in rainfall patterns and increasing temperature. (Bank T. W., 2021) The wet season occurs between November and April, leaving May through October typically dry. There is little season-by-season variation in temperature and relatively little variation by elevation (averaging 23°C in the mountainous and 28°C in the coastal areas) (Suraj Polade, 2014). Due to a combination of political, geographic, and social factors, Indonesia is recognized as vulnerable to climate change impacts, ranked 97 out of 181 countries in the 2020 ND-GAIN Country Index (Bank T. W., 2021).

Indonesia is positioned as one of the most vulnerable countries to extreme heatwaves according to climate model projections (Tom KR Matthews, 2017). Under all emissions pathways, the likelihood of experiencing conditions that would historically (as based against the baseline period: 1986 – 200) class as a heatwave

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increases dramatically by the 2080s through the end of the century: approximately 71% under the RCP¹ (Representative Concentration Pathways)6.0 pathway and 96% under the RCP8.5 pathway. In their study introducing a new Heat Wave Magnitude Index, Russo et al. (2014) suggest Indonesia might experience an extreme heatwave as often as every two years by the end of the 21st century under the RCP8.5 emission pathways (Simone Russo, 2014). However, as these indices are in part a reflection of Indonesia's historically stable baseline climate, and the continual rise in temperatures away from these conditions, extreme heat should also be explored through other indicators.

Furthermore, research has established a reasonably well-constrained relationship between heat stress and labor productivity, household consumption patterns, and (by proxy) household living standards (Bank T. W., 2021). In general terms, the impact of an increase in temperature of these indicators depends on whether the temperature rise moves the ambient temperature closer to, or further away from, the optimum temperature range. The optimum range varies depending on local conditions and adaptations. The effects of temperature rise and heat stress in urban areas are increasingly compounded by the phenomenon of the Urban Heat Island (UHI) effect. Dark surfaces, residential and industrial sources of heat, an absence of vegetation, and air pollution can push temperatures higher than those of the rural surroundings, commonly anywhere in the range of 0.1^oC – 3^oC in global mega-cities (Bank T. W., 2021). Numerous studies have shown how land-use changes associated with urbanization in Indonesia have resulted in UHIs, especially in the capital Jakarta (Tumiar Katarina Manik, 2015).

Jakarta represents a convergence point for multiple climate change vulnerabilities. It faces persistent and severe climate change impact driven by human activities such as transportation, manufacturing or construction. These factors collectively contribute to substantial public health risks, particularly respiratory and cardiovascular conditions (Santika et al. 2023; Gautam et al. 2013; Tran et al. 2023). Rapid urbanization further intensifies these challenges by placing additional pressure on drainage infrastructure, increasing surface temperatures, and compounding pollution exposures, thereby complicating efforts to mitigate climate-related health impacts.

Demographically, Jakarta is characterized by significant cultural, ethnic, and religious diversity, contributing to its cosmopolitan social landscape. While this diversity enriches social dynamics, long-standing inequities persist in access to services, economic opportunities, and civic participation. These disparities influence who receives information, who can act on it, and who is able to participate in decision-making processes (Arrozaaq et al 2023). As a result, the intersecting pressures of climate change and socio-economic inequality produce uneven vulnerabilities and differential capacities to respond to environmental and health risks across communities within the city.

III. PROJECT OBJECTIVES AND IMPLEMENTATION STAGES

By listening to communities' voices and experience, value their knowledge, and giving a room for sharing, this project is expected to:

¹ [Representative Concentration Pathways \(RCPs\)](#) are standardized climate scenarios used by the IPCC to model future climate change, representing different levels of greenhouse gas (GHG) concentrations by 2100, from very high ([RCP 8.5](#)) to very low ([RCP 2.6](#)). They are named for their projected radiative forcing (energy imbalance) in watts per square meter (W/m²) by the end of the century, showing potential impacts of different human behaviors and emission reduction efforts. RCPs help scientists understand how climate might change under various emission futures, guiding policy and risk assessment.



- 1) Understand together with the community their priorities and trade-offs between climate mitigation/adaptation and other values, especially health related issues;
- 2) Co-create feasible solutions that reflect community perspective to support and protect local interest while addressing climate change impact;
- 3) Engage government bodies, research institutions, and other relevant stakeholders in co-developing potential guidelines that integrate community perspective into climate action (climate-health) strategy.

The project consisted of several stages. After theoretical work on epistemic and procedural justice to identify aspects of consultation processes that are required for a just approach, the participatory strategy was developed for initial presentation to the CAB for their input.

INITIAL STAGE

The project began with consultation meetings with OUCRU Indonesia's Community Advisory Board (CAB), ForuM. Two meetings were held: an in-person meeting on 2 November 2025 and an online meeting on 3 November 2025, with a total of eight ForuM members participating. The purpose of these meetings was to present the draft project design, gather feedback to refine the study approach, and identify potential participant groups.

No specific feedback was provided regarding the engagement approaches or tools proposed for the project. However, ForuM members shared relevant contacts and offered support in disseminating invitations for the community mapping meetings. This support was instrumental in ensuring that the project engaged communities from diverse socioeconomic contexts.


MAPPING STAGE

At this stage, three community meetings were conducted on 13, 14, and 15 November 2025, involving a total of 57 working women. Visual participatory tools, including drawings and mapping exercises, were used to enable participants to articulate their experiences, needs, and priorities, regardless of literacy level or professional background. All sessions were audio- and video-recorded with the full informed consent of the participants. Detailed findings from this process are documented in the Community Meeting Report.

CO-DESIGN STAGE

The co-design stage was conducted through two group discussions: one with community participants (28 November 2025), involving 15 working women, and another with members of ForuM which conducted on 29 November 2025. During these discussions, participants synthesised findings from the community meetings into a brief report outlining key adaptation priorities and identified relevant stakeholders who could support and strengthen the proposed actions.

In parallel, a social experiment was conducted by sharing a compiled video of the community meeting discussions and key findings with 20 randomly selected working women in Jakarta. This activity aimed to validate the results and gather structured feedback from individuals who had not



participated in the meetings. This process was also audio-visually recorded with participants' consent.

CONSULTATION STAGE

The final stage was initially intended to bridge communication between relevant stakeholders and affected communities. However, due to time constraints, the activities were limited to dissemination of the project report. This dissemination event was complemented by a series of mini-classes focused on personal adaptation strategies aimed at reducing the impacts of air pollution and urban heat islands (UHIs).

Based on the recommendation criteria and stakeholder networks identified by ForuM members, electronic invitations were disseminated to working women. An online registration form was used to collect participants' demographic information and was accompanied by a project summary and an informed consent form. A total of 66 women registered for the study, of whom 57 attended the mapping meetings.

Three mapping meetings were conducted, each involving approximately 15–25 participants and lasting between 2.5 and 3.5 hours. During the mapping process, the project team not only documented women's daily routines and the duration of heat exposure they experienced, but also identified individual and collective adaptation strategies. This included examining mitigation interventions provided by government institutions and other relevant stakeholders, as well as assessing the extent to which participants were involved in or benefited from these initiatives.

All discussions were digitally recorded, and all paper-based outputs were photographed for documentation purposes. Overall, approximately 232 adaptation practices implemented at the individual and community levels were identified, along with 285 recommended adaptation actions prioritised by participants. These recommendations were subsequently reviewed and categorised based on similarities in activities and objectives. Initially grouped into approximately 30 thematic categories. During the co-design process, the recommendations were further consolidated into six overarching themes: (1) promotive and preventive mental health strategies; (2) integrated waste management and sorting systems; (3) strengthening household- and urban-level greening programmes; (4) optimisation of public transportation systems and private vehicle control policies; (5) multi-sectoral collaboration and adaptation/mitigation policy development; and (6) personal health risk adaptation and mitigation strategies.



The co-design process was conducted on two occasions and involved 15 working women who had previously participated in the mapping meetings, as well as members of the ForuM. During these sessions, participants identified stakeholders considered relevant to the recommended adaptation strategies, including those deemed appropriate for potential involvement in a consultation meeting.

However, due to time constraints, the project team was unable to conduct formal consultation meetings with these stakeholders. Instead, a public discussion was organised to disseminate the project’s preliminary findings to women workers. This event was complemented by a series of mini-classes focused on personal adaptation strategies aimed at reducing the impacts of air pollution and urban heat islands (UHIs).

A total of six mini-classes were delivered: (1) women’s empowerment through waste banks (*Bank Sampah*); (2) eco-enzymes, including their definition, benefits, and preparation methods; (3) mindfulness and self-care for a more balanced daily life; (4) skin protection under extreme heat conditions; (5) principles of balanced nutrition on a limited budget; and (6) healthy habits for working from home. In total, 46 participants attended the public discussion and mini-classes.



IV. PROJECT PARTICIPANT'S CHARACTERISTICS

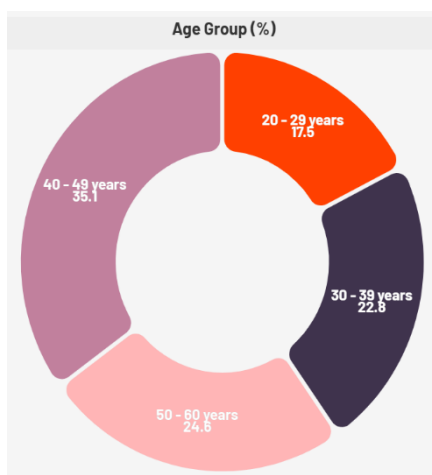
An increasing body of research demonstrates how climate-related disasters disrupt human populations across critical areas like food security, water management, and public health. These impacts vary widely based on socio-economic status, socio-cultural norms, resource access, poverty levels, and gender dynamics. Coping strategies often reflect these inequalities, with marginalized groups facing heightened challenges.

Emerging evidence underscores that these effects are far from gender-neutral—women and children consistently rank among the most vulnerable. For instance, in rural and urban settings alike, women bear disproportionate burdens due to their roles in caregiving and resource gathering. Key factors driving women's elevated vulnerability include gender-based differences in time use, such as extended hours spent on unpaid domestic labour amid worsening conditions; limited access to assets like land or credit; discriminatory treatment by formal institutions that restricts economic opportunities; exclusion from policy discussions and decision-making forums; and a persistent lack of sex-disaggregated data, which hinders targeted policy reforms. Addressing these gaps is essential, as amplifying women's voices in climate adaptation and mitigation ensures more equitable, effective strategies that reflect lived realities.

In this project, we brought together 57 women workers from the Greater Jakarta area, including DKI Jakarta and surrounding municipalities, to centre their experiences in climate-health dialogues. These women, all residing and working in their communities for at least five years, reported frequent exposure to air pollution and urban heat during daily routines—such as commuting, street vending, or informal labour in high-risk environments.

Highlighting their involvement underscores a vital commitment to gender-inclusive engagement. By prioritizing women as key informants, this initiative captured nuanced insights into how environmental hazards intersect with gender roles, like balancing work amid heat stress or pollution while managing household duties. Their participation fosters ownership in adaptation strategies, such as community-led heat action plans or pollution monitoring, ensuring women's perspectives shape policies on urban greening, health services, and resilient livelihoods. This approach not only amplifies underrepresented voices but also builds evidence for sex-disaggregated data, driving systemic change in Indonesia's climate response. Below are the characteristics of participants involved in the project:

Age and Geographic Distribution (Living Area and Working Area)

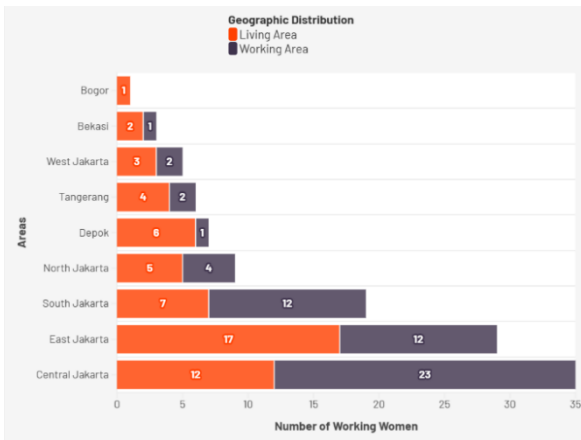


The 57 women participants represented a wide range of working ages and were geographically distributed across Jakarta and surrounding urban areas. Most participants were in mid-to-late working age groups, with 35.1 percent aged 40 -49 years and 24.6 percent aged 50 - 60 years. Younger women aged 30 - 39 years (22.8 percent) and 20 - 29 years (17.5 percent) were also included, ensuring perspectives from different stages of working life.

In terms of residence, participants were primarily based in East Jakarta (17 participants) and Central Jakarta (12 participants), followed by South Jakarta (7) and Depok (6). Smaller numbers lived in North Jakarta (5), Tangerang (4), West Jakarta (3), Bekasi (2), and Bogor (1).

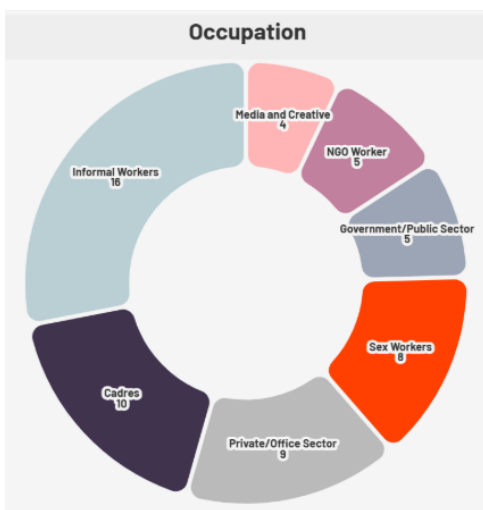
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Employment locations were more concentrated than residential areas. Central Jakarta emerged as the main employment center, where 23 participants reported working, followed by South Jakarta (12) and East Jakarta (12). Only a few participants worked in North Jakarta (4), West Jakarta (2), Tangerang (2), Bekasi (1), and Depok (1). This spatial mismatch between living and working areas suggests regular commuting for many participants, which may increase exposure to urban heat and air pollution during daily travel and working hours.

Occupational profile



The majority of participants were engaged in the **informal sector**, including small-scale entrepreneurs and microbusiness owners (UMKM), street vendors, freelance workers, online motorcycle taxi drivers, tutors, and sports trainers. A smaller proportion worked in the **formal sector**, such as office-based or service jobs with fixed schedules. The group also included **community cadres**, such as women supporting health and social activities at the community level (e.g., *posyandu* and women’s groups), who often combine unpaid community work with income-generating activities.

Overall, the Indonesian participant profile reflects a diverse group of urban working women with varying degrees of job security, mobility, and exposure to environmental risks. These characteristics provide important context for interpreting the

priorities, trade-offs, and solutions articulated during the community discussions and subsequent stakeholder engagement.

IV. WOMEN’S CLIMATE TRADE-OFFS AND PRIORITY OF ADAPTATION

In Indonesia, more than 110 million people across approximately 60 cities, including Jakarta, are exposed to the adverse impacts of climate change, with urban poor populations being the most vulnerable (World Bank, 2019). Despite the presence of community-based coping strategies developed at the grassroots level, communities—particularly women—remain largely excluded from formal policy-making and research processes.

Participants consistently described climate change as both a manifestation of increasingly extreme and unpredictable weather and a direct consequence of human-driven environmental degradation. They associated worsening conditions with deforestation, vehicle emissions, construction activities, inadequate waste management, and rapid urban development. Long-term residents also reported noticeable shifts in seasonal patterns, particularly during the transition between the dry and rainy seasons. These shifts were characterised by shorter and less predictable transitional periods, higher daytime temperatures, and heavier rainfall, which together disrupted daily activities and increased physical discomfort. As one participant reflected:

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“Five years ago, the transitional season was clear, but this year has been the most extreme.”
(Hanifa, 40-49 years old, Community Cadre)

This chapter synthesises the trade-offs and adaptation strategies identified by participants throughout the project implementation. It also captures participants’ knowledge of climate-related programmes implemented by various stakeholders, along with their reflections and feedback on these initiatives. These insights were collaboratively categorised into thematic areas with participants. Each theme concludes with participant-recommended adaptation and mitigation actions aimed at reducing the impacts of air pollution and urban heat islands (UHIs).

IV.1. ENHANCING PERSONAL HEALTH RISK ADAPTATION AND MITIGATION STRATEGIES

Air pollution was widely perceived as a significant risk factor for a range of health outcomes, affecting multiple dimensions of daily life, including work, mobility, and domestic activities. Although scientific evidence remains limited in some areas, participants in Indonesia reported experiencing direct physical impacts associated with heat and air pollution, such as respiratory problems, skin irritation, headaches, and eye discomfort. Several participants also described mental health effects, including stress, irritability, and emotional fatigue. Women living with comorbidities—particularly hypertension and HIV/AIDS—emphasized that exposure to heat and air pollution intensified their symptoms and increased their vulnerability to illness.

Beyond commonly recognised symptoms, participants described new and unexpected bodily sensations related to worsening heat and air quality. These embodied experiences were often articulated in vivid, sensory terms, reflecting how environmental change is first perceived through the body in everyday life. One participant described her experience as follows:

“This year the heat feels far more extreme, my eyes sting, my skin feels sticky, and it becomes itchy.”
(Laras, 30-39 years old, Sex Worker)

Such accounts highlight the experiential knowledge communities hold regarding environmental change—knowledge that often emerges prior to quantitative measurement or formal recognition in policy and research contexts.

Heightened vulnerability was particularly evident among women with chronic health conditions. One social worker living with HIV explained how exposure to heat and air pollution compounded her health risks, especially during periods of physical exhaustion:

“Because of fatigue, heat, pollution, and sudden weather changes, I can catch the flu and be sick for up to two weeks.”
(Hartini, 40-49 years old, HIV survivor/Community cadre)

Prolonged exposure to heat and air pollution was also reported to negatively affect work productivity, particularly among women engaged in outdoor or highly mobile occupations. Informal workers who spent long hours on the road described experiencing more severe health consequences due to continuous exposure.



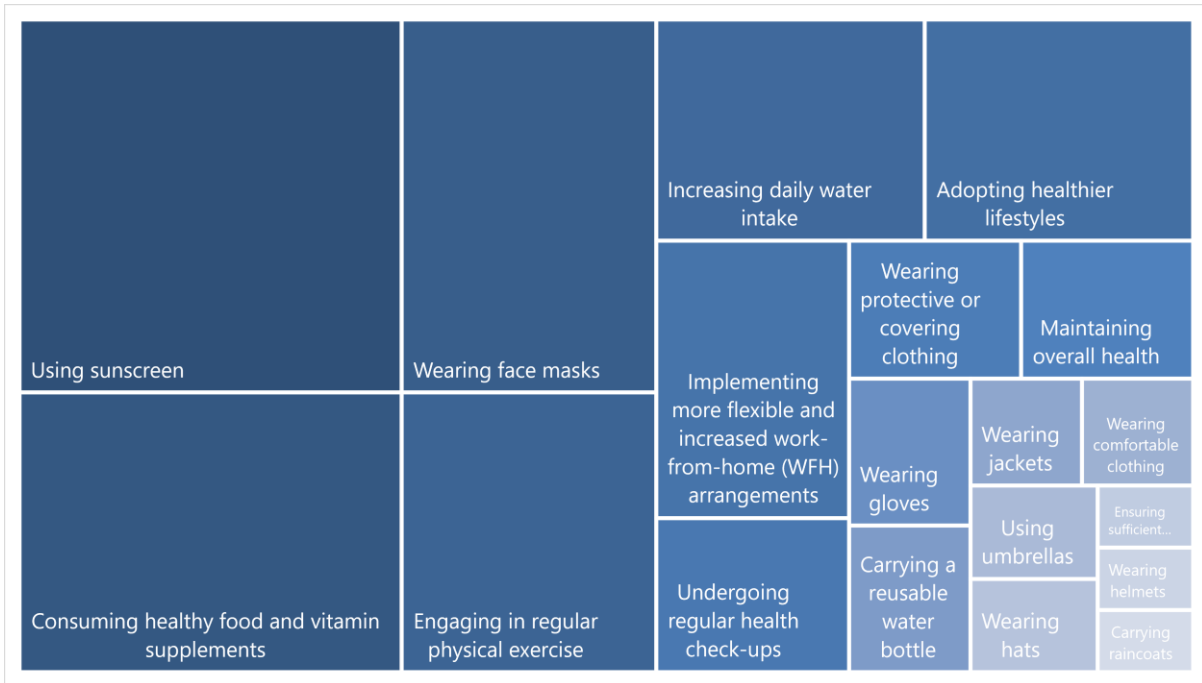
“A few months ago, I suffered a stroke. I was confused because my blood pressure was normal and I had not experienced any noticeable symptoms. When I consulted a doctor, I was told that this condition occurred due to frequent exposure to extreme heat.”
(Meily, 50-60 years old, Motorbike Online Taxi Driver)

To cope with heat and air pollution, participants primarily adopted personal protective measures, including the use of skincare products such as sunscreen and moisturizers, as well as protective clothing such as gloves, long-sleeved or layered clothing, masks, umbrellas, sunglasses, and hats. These measures were perceived as effective in reducing direct impacts, including hyperpigmentation, sunburn, eye irritation, and shortness of breath. A business development professional described her routine adaptation practices:

“When I go outside, I always wear a mask, drink plenty of water, and take vitamins to maintain my stamina.”
(Elisa, Business Development)

Although such protective practices were widely used, participants acknowledged substantial gaps in knowledge. Many relied on word of mouth or commercial advertising when selecting protective products and expressed uncertainty regarding appropriate use, such as how frequently sunscreen should be reapplied during prolonged outdoor exposure.

In addition to physical protection, participants reported behavioural adaptation strategies, including consuming vitamins and supplements, increasing daily water intake, engaging in physical exercise, and adopting healthier diets. However, they noted that these practices were difficult to sustain consistently due to demanding work schedules, fatigue, and limited access to reliable information. Participants frequently reported forgetting to drink water during busy workdays and highlighted the need for more practical guidance on healthy food choices.



Recommendation of priority adaptation and mitigation in enhancing personal health care and protection

Participants identified the continuous use of protective skincare products and personal protective equipment as their highest-priority adaptation strategy, alongside maintaining healthy lifestyles, such as increasing water intake and consuming nutritious food.

Although participants were generally accustomed to using protective equipment, they acknowledged gaps in knowledge and limited access to reliable information regarding the most appropriate types of protection for different individual conditions. Participants reported that purchasing decisions were often influenced by advertisements or recommendations from family members, friends, and social media influencers. Consequently, they emphasized the need for more practical, accessible, and context-specific information on personal and family health in relation to climate-related risks.

Health professionals, outreach workers, and primary healthcare facilities were consistently identified as trusted sources of information, particularly on nutrition, disease prevention, hydration, and daily practices to reduce exposure to heat and air pollution. Participants expressed a strong preference for in-person educational sessions over social media-based information, as direct engagement allows opportunities for questions and consultation with experts. However, they also noted that the timing of such activities often does not align with their working schedules, limiting participation.

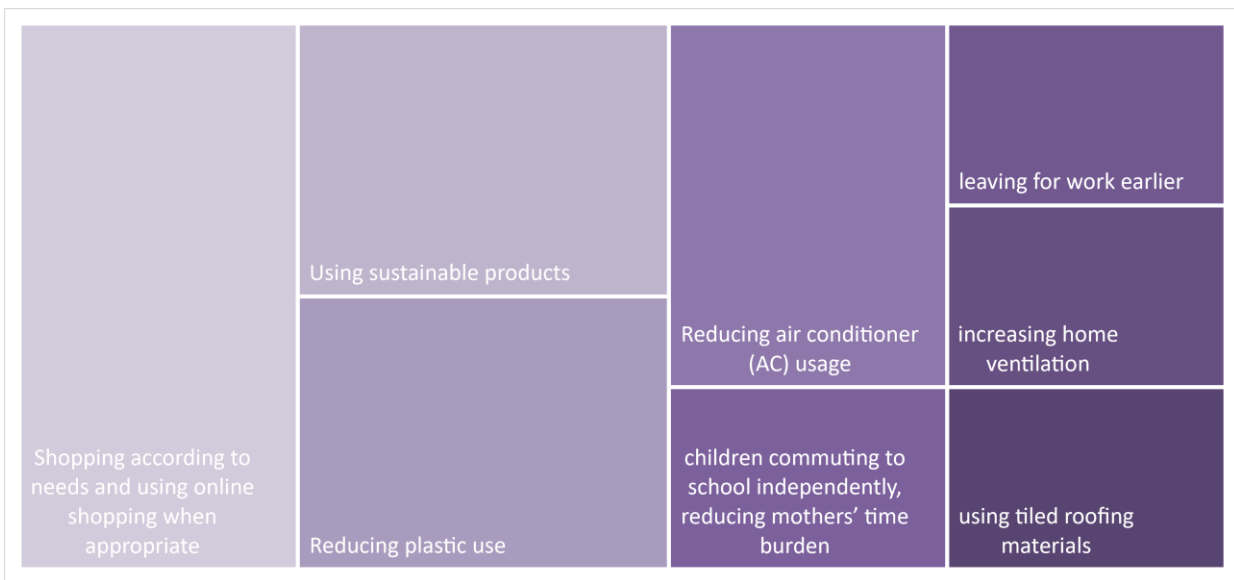
Women emphasized that word-of-mouth communication is highly effective within their networks. As a result, they viewed themselves as playing a critical role in driving meaningful climate change adaptation through everyday practices. Participants highlighted that information and behaviours adopted at the individual level often extend beyond the household to influence broader social and community networks, as articulated by one participant:



“Every woman plays an important role in her family, whether as a daughter or a mother. Information we receive does not stop with us, but is shared with our parents, spouses, and children, and often extends to colleagues and the wider community. When we practise adaptation strategies and experience their benefits in reducing the impacts of pollution, we naturally apply them within our families and promote them among friends and community members.”

(Heny, 40-49 years old, Board Advisor of a Civil Society Organization)

Beyond health impacts, participants recognised that rising temperature extremes—driven by the combined effects of urban heat islands (UHIs), climate change, and ongoing urban expansion—are likely to reduce productivity in the service sector. These impacts occur not only through direct effects on labour capacity but also through increased adaptation-related costs, such as higher energy consumption. In response, participants highlighted the importance of continuously promoting simple and feasible individual actions, including reducing electricity use, practicing smart consumption, and making incremental improvements to housing to enhance environmental sustainability. They further emphasized the need for campaigns that communicate that healthy and environmentally friendly lifestyles are affordable and achievable across all socioeconomic groups.



IV.2. PROMOTE PREVENTIVE MENTAL HEALTH STRATEGIES

Participants consistently identified mental health as an integral component of climate-related health impacts, particularly in relation to prolonged exposure to heat, air pollution, and mobility-related stress. Rather than framing mental health as a separate or secondary concern, women workers described emotional strain, irritability, and exhaustion as routine consequences of living and working in increasingly harsh urban environments.

Women working in traffic-dense and heat-exposed settings described how environmental stressors directly affected emotional regulation and overall well-being. One community cadre explained how heat and congestion intensified emotional stress during daily commuting:

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“When I am on the road during extreme heat, stopping at traffic lights while vehicles behind keep honking, my emotions get triggered. For me, an important form of adaptation is learning how to control my emotions.”

(Mafhe, 30-39 years old, Community Cadre)

Mental health impacts were further described as cumulative, emerging from sustained daily exposure rather than isolated climate events. Participants reported that prolonged heat exposure shaped their mood across the day, influencing work performance, concentration, and interpersonal interactions. One participant described this effect succinctly:

“Extreme heat really affects my mood. When I get overheated, the whole day can turn into a bad mood.”

(Puji, Guest Relation Officer)

For women balancing paid employment with domestic and caregiving responsibilities, emotional fatigue was frequently carried into the household. Mobility stress, time pressure, and heat exposure were described as reducing emotional resilience at home, particularly among mothers and primary caregivers. A social worker described this spillover effect as follows:

“The heat and traffic make me emotional, and sometimes that emotion carries over when I get home.”

(Hartini, 40-49 years old, HIV survivor/Community Cadre)

Recommendation of priority adaptation in promote preventive mental health strategy

Maintaining mental health is a foundational priority for women workers facing climate-related stressors. It is



therefore recommended that mental health promotion and prevention be formally integrated into climate–health adaptation strategies at national and sub-national levels. Government institutions, health authorities, climate stakeholders, and community organisations should collaborate to ensure that psychological well-being is addressed alongside physical health in climate policy and programming.

Participants emphasised the importance of normalising mental health care as part of routine health maintenance rather than framing it solely as a response to crisis. Preventive approaches—such as recognising early signs of emotional exhaustion, strengthening stress management skills, and facilitating timely access to support—should be embedded within community-based climate adaptation programmes. These

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interventions should be co-designed with communities, particularly working women, to ensure cultural relevance, feasibility, and trust.

To improve access and affordability, participants highlighted the need to strengthen and expand BPJS coverage for mental health services. This requires coordination between national health insurance authorities, local health offices, healthcare providers, and climate-related stakeholders to ensure that mental health services are accessible, responsive, and aligned with the needs of populations disproportionately affected by climate stress. Clear communication regarding eligibility, service pathways, and entitlements under BPJS should be prioritised.

Participants also recommended strengthening community-level mental health education and outreach. Health professionals, community outreach workers, primary healthcare facilities, and civil society organisations should work together to disseminate practical, context-specific mental health information that explicitly addresses the links between climate stressors, emotional well-being, and daily functioning. Community-based discussions and peer support mechanisms were seen as essential platforms for reducing stigma, increasing awareness, and encouraging early help-seeking.

Overall, promotive and preventive mental health strategies should be embedded within broader, multi-sectoral climate–health adaptation frameworks. Strengthening collaboration across government sectors, health systems, climate actors, and communities—and ensuring meaningful community participation in programme and policy design—will be critical for building resilience, sustaining productivity, and supporting equitable engagement in climate adaptation and mitigation efforts.

IV.3. OPTIMIZE OF PUBLIC TRANSPORTATION SYSTEM AND PRIVATE VEHICLE CONTROL

While 18 of the 57 participants reported working close to home, the majority resided in surrounding suburban municipalities. This pattern reflects the spatial characteristics of the Greater Jakarta metropolitan area, where residential zones are frequently located at considerable distances from employment centres, resulting in long commuting times through congested and highly polluted environments.

Women who commute between home and their workplaces experienced heightened exposure to air pollution and urban heat due to extended periods spent in transit and outdoors. However, exposure was not confined to commuting alone. Participants reported encountering elevated heat and air pollution levels throughout their daily routines, including running errands, working outdoors, and navigating crowded public spaces. As a result, pollution and extreme heat were described as persistent environmental conditions embedded in everyday life rather than as isolated or episodic events. During discussions, women workers estimated that they were exposed to heat and air pollution for approximately six hours per day, accounting for nearly 25% of their total daily time.

Exposure patterns varied by occupation. Participants employed in the formal sector estimated that, on average, they spent approximately 1.6 hours per day commuting between home and the workplace. In contrast, journalists, NGO officers, community cadres, and informal workers—such as motorcycle taxi drivers or peddler—reported more variable and often unpredictable exposure patterns, as their routes and schedules changed daily depending on work assignments.



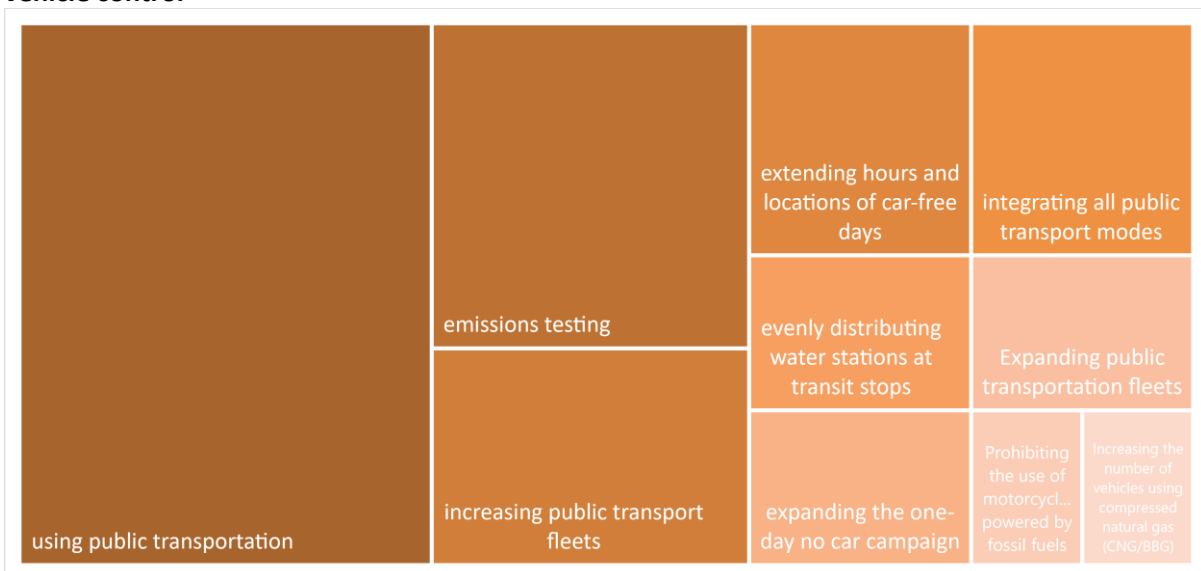
“There are times when I work outside the office for an entire week to cover news or interview sources. When that happens, I usually leave home around 8 AM, go straight to the location, stay there for more than eight hours, and return home around 7 PM. You may not always be directly under the sun, but you can always feel the heat and the heavy air.”
(Nuty, 50-60 years old, Journalist)

To cope with air pollution and traffic congestion, participants reported adjusting their daily mobility strategies, such as leaving home earlier, returning after peak hours, and working from home whenever possible. Several participants also noted that using public transportation served as an adaptation to reduce stress and anxiety associated with traffic congestion. However, they acknowledged trade-offs, including longer travel times and prolonged exposure to heat during transfers and waiting periods.

Women workers described continuously negotiating trade-offs between mobility efficiency, exposure to heat and air pollution, physical fatigue, and domestic responsibilities. These findings underscore that transportation choices are not merely technical or infrastructural decisions; rather, they are deeply shaped by gendered roles, occupational demands, and unequal access to safe, affordable, and efficient public transportation systems.

Some participants also highlighted government regulations aimed at limiting personal vehicle use, such as restrictions on private vehicle use for civil servants in Jakarta on Wednesdays and the implementation of car-free day programmes on major roads every Sunday. While participants appreciated these initiatives as efforts to reduce greenhouse gas emissions and improve air quality, they emphasized that increased frequency and broader coverage would be necessary to generate more substantial and sustained impacts.

Recommendation of priority adaptation in optimalization of public transportation system and private vehicle control



it is recommended that transportation-related climate adaptation and mitigation strategies prioritise a modal shift toward public transportation as the core intervention for reducing air pollution exposure and transport-related emissions. The prominence of public transport use in the mapping exercise indicates strong



community support for policies that discourage reliance on private vehicles, particularly in dense urban settings.

To support this shift, participants emphasised the need to expand public transportation fleets and integrate all public transport modes into a cohesive, user-friendly system. Limited-service coverage, long waiting times, and fragmented networks were identified as major barriers that disproportionately burden women commuters. Integrated scheduling, seamless transfers, and improved last-mile connectivity should therefore be prioritised to reduce travel time, physical strain, and exposure to environmental stressors.

Participants also recommended strengthening personal vehicle emissions testing and enforcement as a complementary mitigation measure. Stricter regulation of personal vehicle emissions was viewed as essential for addressing pollution at its source, particularly in areas with high traffic density. Such regulatory measures should be implemented alongside public transport improvements to maximise environmental and health benefits.

Several demand-side interventions were highlighted as effective but currently underutilised. These include extending the hours and geographic coverage of car-free days and expanding one-day no-car campaigns. Participants viewed these initiatives as valuable for reducing emissions and improving air quality but stressed that their impact would remain limited without increased frequency, broader coverage, and consistent enforcement.

Recognising the intersection between transportation, heat exposure, and health, participants also recommended evenly distributing drinking water stations at transit stops. This measure was seen as a practical adaptation to reduce heat-related health risks for commuters, particularly women who spend extended periods waiting for or transferring between modes of transport.

More stringent regulatory measures—such as restricting the use of fossil-fuel-powered motorcycles and increasing the number of vehicles operating on compressed natural gas (CNG/BBG)—were acknowledged as important long-term strategies. However, participants perceived these interventions as more challenging to implement in the short term due to infrastructure limitations and economic constraints. Gradual, phased implementation accompanied by incentives and infrastructure investment was therefore recommended.

Overall, these recommendations underscore that transportation policies must move beyond purely technical or infrastructural solutions. Transportation choices are deeply shaped by gendered roles, occupational demands, and unequal access to safe, affordable, and efficient mobility systems. Climate-responsive transport strategies should therefore be designed through participatory processes that centre the lived experiences of women commuters and explicitly address trade-offs between mobility efficiency, exposure to heat and pollution, rest, and domestic responsibilities.

IV.4. INTEGRATED WASTE MANAGEMENT AND SORTING SYSTEM

Although not all participants fully understood how household and industrial waste contributes to global warming, waste management emerged as an important adaptation practice in response to air pollution and urban heat islands (UHIs). Most participants primarily associated waste with unpleasant odours and smoke resulting from open burning, which they directly linked to deteriorating air quality. Participants also noted that waste management has not yet become a priority for local governments at the RT/RW and *kelurahan* levels. For example, the provision of communal waste bins was reported to be uneven across neighbourhoods.



Several participants reported practising basic waste segregation at the household level, separating organic and non-organic waste. Organic waste was often managed through small-scale composting or disposed of separately, while recyclable materials—such as plastic bottles and cardboard—were collected and sold to informal waste collectors. In some communities, residents had initiated collective arrangements to compensate for limited municipal services, including coordinating waste collection schedules, individually hiring waste collectors, or establishing community-based waste banks. In areas led by motivated village leaders, residents relied on neighbourhood clean-up activities (*kerja bakti*) and temporary communal dumping points, although final disposal in some cases still involved open burning. Overall, these practices were perceived as reducing uncontrolled dumping and, to some extent, open burning, while also fostering collective responsibility and environmental awareness among community members.

Participants emphasized household-level waste management practices should be integrated with existing infrastructure, waste collection mechanisms, and waste processing at final disposal sites (landfills). The basic practices such as waste sorting and maintaining environmental cleanliness can generate tangible benefits when implemented collectively. One participant described how community-based waste initiatives improved both environmental conditions and household income:

“In our neighbourhood, there is waste sorting and a waste bank. The environment becomes cleaner, and there is also a reduction in waste fees.”
(Bunsya, 40-49 years old, Employee)

Beyond infrastructure limitations, participants highlighted challenges related to public awareness and the knowledge and practices of waste management personnel. While some residents demonstrated good initiative by separating organic and non-organic waste and engaging in recycling, others continued to dispose of waste by dumping it into rivers or drainage ditches or by burning it. Similar issues were observed in waste collection practices, as garbage collectors often lacked access to segregated trucks or carts. As a result, waste that had been separated at the household level was frequently mixed again during collection, undermining individual and community efforts to manage waste more sustainably.

“When we are in the field and heavy rain happens, the roads flood quickly because the drainage channels are blocked with garbage. That is why wider drainage channels are needed.”
(Imas, 50-60 years old, Community Cadre)

“In my residential area, we only have communal dumpsters, so my neighbours often feel reluctant to carry their waste there and instead prefer to burn it in front of their houses. This usually happens in the morning or afternoon, coinciding with times when children are playing or sunbathing. The smoke causes many children to start coughing. Banning waste burning is important, but so far, the village leader has not taken any action.”
(Rosa, 20-29 years old, Housewife)

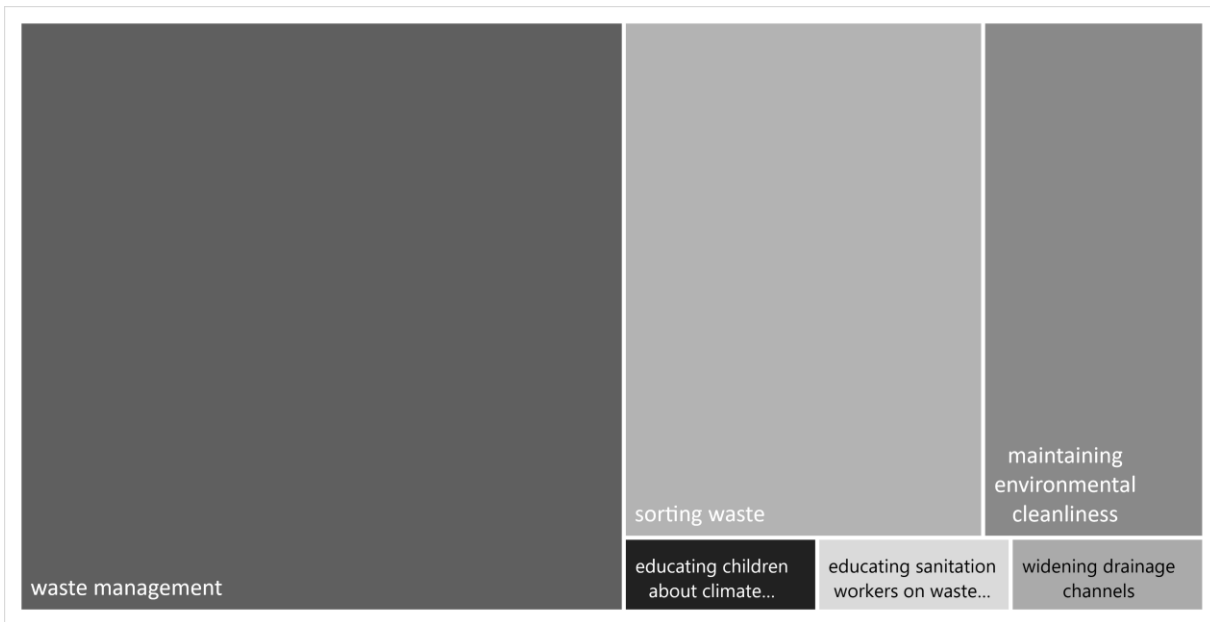
Recommendation of priority adaptation in integrated waste management and sorting system

Village and community leaders were identified as playing a critical role in addressing waste management challenges. Participants noted that these leaders are well-positioned to promote environmental awareness and collective action, for example, by initiating *kerja bakti* (community clean-up activities), facilitating the provision of communal waste bins, and educating residents on waste sorting and recycling practices. At the same time, grassroots leaders were perceived as having access to higher-level officials, enabling them to



advocate for more strategic and systemic actions, such as improving the capacity of waste collectors, strengthening integrated waste management systems from households to landfills, and upgrading supporting infrastructure.

Participants emphasised that effective coordination across all levels of government is essential, as community-level adaptation efforts are unlikely to be effective without institutional support. Integrated waste management was therefore perceived as a foundational adaptation strategy, essential for improving environmental cleanliness, reducing health risks, preventing climate-related flooding, and strengthening urban resilience in the context of increasingly extreme weather conditions.



IV.5. STRENGTHEN HOUSEHOLD AND URBAN GREENING PROGRAMME

Participants noted that rapid urban development and increasing demand for land—both for housing and livelihood activities—often conflict with urban greening initiatives. They perceived this tension as a contributing factor to worsening local climate conditions in Jakarta. Participants explained that tree removal increases pedestrian-level heat, discouraging walking and encouraging greater reliance on motorcycles and private cars, which in turn exacerbates air pollution and urban heat.

Similar concerns were raised in residential areas, where authorities or housing management were reported to prioritise cutting mature trees to prevent potential hazards, often without replanting. For some participants, these practices were viewed as contradictory to municipal initiatives such as the “one house, one tree” programme introduced in recent years, highlighting inconsistencies between urban development practices and stated greening policies.

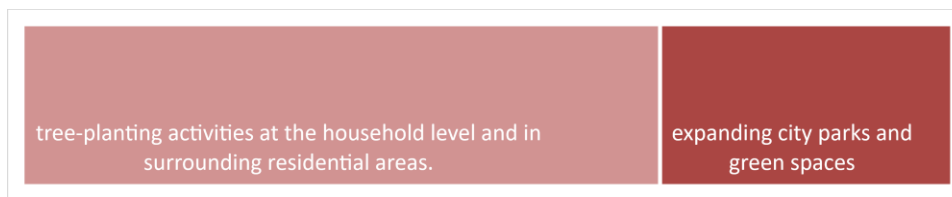
“Stop cutting down trees just because people are afraid, they might fall. It is better to maintain the existing tress so they remain safe and do not collapse.”
(Olivia, Swimming Instructor)



Participants acknowledged that individual-level adaptation and action in relation to urban greening remain limited. Some participants—particularly those not living in residential compounds—reported maximising small available spaces around their homes by developing vertical gardens. Others relied on residential management to establish and maintain green areas.

Across all three discussion groups, participants also emphasised the importance of expanding and maintaining city parks as a positive initiative. City parks were viewed not only as greening interventions but also as vital public spaces that support community activities, including physical exercise, community gatherings, and family leisure, thereby contributing to both environmental quality and social well-being.

Recommendation of priority adaptation in strengthening household and urban greening programme



The participants recommend that strengthening urban greening strategies in Jakarta should focus on two priorities: tree planting in residential areas and expanding city parks and green spaces.

For the greening programme in residential areas, preserving existing trees is as important as planting more trees. The current tree removal practices are considered short-term risk avoidance over long-term environmental benefits.

In addition, participants emphasised the need to expand green spaces, particularly in densely populated neighbourhoods and urban peripheries where exposure to heat and air pollution is most severe. Urban greening initiatives were viewed not only as environmental interventions but also as public health measures capable of reducing daily exposure to extreme temperatures.

“The government should plant more trees, especially in areas at the edge of the city.”
(Mayla, Administrative Worker)

Participants further stressed that effective urban greening requires evidence-based design and the meaningful involvement of researchers to ensure that green spaces are functional, accessible, and responsive to community needs. Poorly planned greening initiatives were perceived as underutilised or ineffective. One participant articulated this expectation clearly:

“Researchers need to be involved so that urban parks are designed properly and truly benefit the community.”
(Betty, 50-60 years old, Transgender Community Cadre)



IV.6. STRENGTHEN MULTI-SECTORAL COLLABORATION AND ADAPTATION/MITIGATION POLICY FRAMEWORK

In the co-design process, participants identified a wide range of stakeholders involved in climate action, including government authorities, private sector actors, local non-governmental organisations, and community groups. Provincial-level government was viewed as playing a strategic role in aligning climate adaptation and mitigation strategies with community needs and priorities.

However, participants noted that climate-related interventions and support were unevenly distributed across districts and sub-districts, resulting in unequal access and variable levels of impact. These disparities were frequently attributed to weak coordination across governance levels. Within Indonesia's decentralised governance system, where sub-national entities hold substantial autonomy, participants perceived persistent misalignment between policies and their implementation at the sub-district, district, and provincial levels. This misalignment was described as occurring across multiple dimensions, including intervention strategies, levels of influence, and the distribution of responsibilities. One participant, speaking on behalf of their group, characterised this pattern as largely reactive rather than preventive:

*“Dengue fogging should not wait until cases appear.”
(Vionna, 20-29 years old, Civil Servant)*

Similarly, participants opined government and stakeholder responses are predominantly oriented toward acute climate-related disasters such as floods and landslides. Immediate assistance is most often provided by local neighbours and relatives. This reliance on informal support networks underscores structural gaps in institutional response at the early stages of climate incidents and highlights the critical need to strengthen community-level resilience and preparedness for climate-related events.

This fragmentation was perceived to contribute to delays and gaps in environmental and climate responses, as well as to declining levels of community trust in government performance. Participants described underlying power asymmetries that limited their ability to influence decision-making, noting that challenges in communication with local authorities further reduced confidence in formal governance processes. Although institutional efforts were acknowledged, many participants felt that these were often insufficiently visible, accessible, or responsive at the community level. Difficulties in accessing policymakers directly were also frequently raised.

*“It is difficult for us to meet government officials, so we need to come prepared with data if we want concrete follow-up.”
(Emi, Campaign Manager)*

To strengthen stakeholder collaboration in determining appropriate adaptation and mitigation strategies, participants agreed that researchers play a key role in bridging communication gaps between communities and decision-makers. Participants emphasized that researchers provide an evidence-based pathway for translating lived experiences into policy-relevant knowledge, thereby supporting more timely and effective action.



“Through the researcher, we can voice our concerns and complaints to the government.”
(Puji, Guest Relation Officer)

Researchers were consistently viewed as critical intermediaries who can translate lived experiences into evidence that is more likely to be recognised and considered within policy processes. One participant, working as a guest relations officer, highlighted this intermediary role clearly:

“Researchers have a scientific basis to find the root of the problem. From research, we can find concrete solutions that we may not have been aware of before.”
(Elisa, Business Development)

Research was also framed as an advocacy mechanism for communities with limited access to policy spaces, enabling community concerns to be formally documented and elevated within institutional decision-making processes.

“Not all of us can directly convey our aspirations. Through research, we can express our concerns and input to the government.”
(Puji, Guest Relation Officer)

Recommendation of priority adaptation and mitigation in strengthen multi-sectoral collaboration and policy framework

To enhance the effectiveness and sustainability of climate adaptation and mitigation efforts, it is recommended that government institutions strengthen collaboration with climate-related stakeholders, including the private sector, civil society organisations, researchers, and community groups. Findings highlight that many adaptive practices already exist at the community level—such as gotong royong (collective action), routine waste collection, recycling initiatives, household waste segregation, and restrictions on open waste burning—but their implementation remains uneven and highly dependent on local leadership and external support. Government-led programmes should therefore be designed to reinforce, scale up, and institutionalise existing community-led initiatives, rather than replace or undermine them.

Participants recommended expanding climate-related health campaigns and integrating them with community-based activities through partnerships between local government, health authorities, researchers, and community organisations. Such campaigns should be co-designed with communities to ensure relevance, accessibility, and trust. Similarly, collective actions with community groups, clubs, and neighbourhood organisations, including regular kerja bakti (community clean-up activities), should be formally supported through policy frameworks, technical assistance, and sustained funding.

At the policy level, participants emphasised the importance of promoting sustainable living policies through multi-sectoral collaboration. This includes measures such as reducing household and commercial electricity consumption, limiting the construction of glass-dominated buildings that exacerbate urban heat, and expanding green infrastructure. These policies should be accompanied by practical guidance and incentives to enable community participation and behavioural change.

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Participants also highlighted the need for stronger engagement with the private sector as an active partner in climate adaptation and mitigation. Environmental responsibility was framed as a shared obligation, particularly in relation to waste management, emissions reduction, sustainable business practices, and workplace adaptation measures. Public–private partnerships were seen as critical for expanding employment opportunities that are climate-resilient, supporting indoor or lower-exposure work options, and improving access to health-related services, including hospital care and occupational health protections.

In addition, participants recommended targeted interventions to improve health and social protection, such as providing dedicated national health insurance (BPJS) programmes for women, improving hospital services, and strengthening vector control and environmental monitoring systems through coordinated roles and responsibilities among relevant agencies (e.g. task forces and municipal services). Clear role definition and accountability across institutions were viewed as essential to avoid fragmentation and duplication.

Finally, participants underscored the importance of strong facilitation roles by researchers and policymakers to support collaboration across sectors. Transparent communication, sustained engagement, and alignment of objectives were identified as key enablers for building trust, rebalancing power relations, and ensuring that climate–health adaptation strategies are preventive, equitable, and responsive to community realities. Meaningful community involvement—particularly of women—in the design, implementation, and evaluation of programmes and policies should be treated as a core principle of climate governance, rather than a supplementary activity.



The Opposite life of Female Sex Workers in Jakarta

This case study emerged from the project team's curiosity regarding the results of daily routine charts completed by several female sex worker participants. An apparent inconsistency was identified: the reported amount of time allocated to rest and sleep ranged from 15 to 20 hours per day, which appeared unusually high. To better understand this finding, the team arranged a follow-up meeting with a member of FORUM, who facilitated contact with the female sex worker participants.

The FORUM representative explained that, due to the pervasive stigma faced by sex workers, many find it difficult to be open about their lives, particularly with outsiders. This reluctance is even more pronounced among those who are not supported by non-governmental organizations (NGOs) or who have never previously participated in research activities. As a result, initial data collection tools may not fully capture the complexity of their daily realities.

She further explained that the lives of sex workers differ significantly—often described as “180 degrees apart”—from those of other female workers. Broadly, sex workers can be categorized into three groups: (1) those who obtain clients online, (2) those who work in designated localization areas, and (3) those who work in spas or karaoke venues while also engaging in sex work as a secondary occupation. Among these groups, those working in spas and karaoke venues typically have the longest working hours, often starting around 12:00 p.m. and continuing until 3:00–4:00 a.m. Sex workers in localization areas generally work from approximately 7:00 p.m. until 4:00 a.m. Meanwhile, those who receive clients online usually begin working after 5:00 p.m. and may continue into the morning. The total duration of working hours largely depends on the number of clients served each day, with the exception of those employed in spas or karaoke venues, whose schedules are more fixed.

Although most sex workers work at night, this does not mean they are free from exposure to air pollution and urban heat islands (UHIs). First, not all sex workers live in adequate housing conditions. Many reside in rented rooms (*kost*) with poor ventilation, resulting in limited air circulation. Similar conditions are often found in their workplaces. For those working in localization areas, rooms are frequently constructed with minimal standards; some are even made of corrugated metal sheets, which absorb and retain heat. When these observations were confirmed with project participants, they acknowledged that such conditions were common.

One participant, who is also an HIV outreach cadre, described her experience as follows:

“Having air conditioning is out of the question. The room I share with several friends only has one fan that we use together, so I often have to sleep in the heat. On top of that, when I have to visit other sex workers, I can end up being exposed to heat all day. For example, I come in the morning, but the person hasn't woken up yet; then I return in the afternoon and they're out; I wait until evening before they come back—or sometimes I leave because I have to work.”

Skin-related problems were the most frequently reported health complaints among sex worker participants. In addition to general skin irritation, redness, and similar conditions, participants also reported skin problems around the genital area. These issues were attributed to their inability to change underwear frequently and their decision to limit water intake in order to avoid frequent trips to the bathroom during work hours. To manage these conditions, participants commonly used topical ointments or skin medications purchased from pharmacies without consulting a doctor.

Access to formal healthcare remains a significant challenge. Not all sex workers possess official ID cards, which prevents them from accessing government health facilities. At the same time, the cost of private clinics or doctors is often prohibitive. As a result, many rely on health workers from NGOs who visit them occasionally to provide health education and basic support.

The project team reflected that the lived experiences of sex workers differ in important ways from those of other groups of working women and therefore require deeper, more context-sensitive assessment. While engaging with this population presents methodological and ethical challenges, the team recognizes that a more nuanced understanding is essential. Investing in such inquiry is viewed as a necessary step toward developing more inclusive and responsive strategies to support sex workers in coping with the impacts of air pollution and urban heat islands (UHIs), and to ensure that climate–health adaptation efforts do not overlook populations facing heightened vulnerability.



V. PROJECT'S RECOMMENDATIONS FOR FURTHER RESEARCH AND ENGAGEMENT

The recommendations for further research and engagement presented in this section were developed by the project team. While communities identified a wide range of priority adaptation and mitigation actions, not all could be included, as they fall outside the strategic vision and research priorities of OUCRU Indonesia. Further discussion and broader dissemination of the engagement findings are therefore needed to support continued learning, collaboration, and the sustained resilience of working women.

1. Conduct further research with larger and stratified samples of working women in Jakarta and other major cities in Indonesia.

This project was designed as a community engagement initiative and implemented within a limited timeframe and with constrained human resources. The project team greatly appreciated the participants' enthusiasm, not only in sharing their lived experiences but also in co-developing recommendations and contributing to the report. However, the team also recognises that the findings may not fully represent the broader population of working women in urban Indonesia.

For example, although many participants were employed in the informal sector, a substantial proportion had relatively strong educational backgrounds (at least secondary education), and women from lower-income and lower-education groups were underrepresented. As such, the findings should be interpreted as exploratory rather than representative.

The results of this study can serve as a baseline for further research aimed at identifying effective climate adaptation and mitigation models, especially those related to health-seeking behaviour, among populations with comparable socioeconomic and exposure profiles. Future studies should adopt larger, stratified sampling strategies to capture greater diversity across income, education, occupation, and housing conditions. In addition, further research should incorporate responsibility and governance mapping to clarify roles, responsibilities, and accountability across governance levels, to identify coordination gaps, as well as enable factors for effective climate–health action.

2. Systematically assess local climate–health information ecosystems using audience segmentation and behavioural insights.

Project findings indicate a clear need to strengthen the effectiveness of climate communication and information circulation at the community level. Rather than creating additional communication channels, future efforts should prioritise empowering communities—particularly working women—to access, assess, and use accurate and relevant climate–health information. At present, government agencies at provincial and national levels, as well as non-governmental organisations, disseminate information through a wide range of conventional and digital platforms. However, the effectiveness of these channels in meeting the specific needs of working women remains unclear.

A systematic assessment of local climate–health information ecosystems is therefore recommended to examine how existing channels function in practice. Such assessments should explore whether communication platforms adequately address women's information needs, provide opportunities for interaction and clarification, and accommodate linguistic and cultural diversity across different groups of working women. More broadly, this assessment should also examine how climate-related information influences health-seeking behaviour among working women in Jakarta.



These analyses would enable stakeholders, including OUCRU Indonesia, to better understand how communities' access, interpret, and trust climate–health information. The assessment should explicitly examine the roles of social media, official government communication channels, and informal networks, including pathways through which misinformation circulates. Applying audience segmentation and behavioural insights approaches is strongly recommended to identify differences in information needs, preferences, and vulnerabilities across population groups, thereby supporting the design of more targeted, equitable, and effective communication strategies.

3. Improve climate–health literacy among community cadres and women influencers to strengthen the accuracy and reach of information dissemination.

Findings from the discussions highlight the critical role of community cadres and women influencers—such as female teachers, healthcare workers, and wives of village leaders—as trusted intermediaries between government institutions and local communities. Beyond their intermediary function, these individuals often serve as role models for working women within their neighbourhoods, shaping norms, behaviours, and health-related decision-making.

The project team recommends targeted capacity-building initiatives to enhance the climate–health literacy of these actors, equipping them with accurate, up-to-date knowledge and practical communication skills. With strengthened capacity, community cadres and women influencers can more effectively support the circulation of reliable information, counter misinformation, and motivate communities to co-develop context-appropriate adaptation and mitigation strategies in response to climate change impacts.

V. CONCLUSION

This engagement project created space for meaningful dialogue with working women, allowing the project team to gain deeper insight into how air pollution and urban heat islands are understood and experienced in everyday life. Beyond generating empirical findings, the process itself underscored the value of inclusive and participatory engagement in addressing epistemic and procedural injustices that often characterise climate–health research and policy. By centring lived experience, the project demonstrated how community engagement can contribute to the development of climate–health responses that are context-specific, socially grounded, and attuned to community priorities. At the same time, the findings highlight the need for broader and more in-depth research to build on these insights and support the design of more comprehensive and sustainable adaptation and mitigation strategies.