Gender and Heat Stress: Key Facts

Extreme Heat in Asia and the Pacific

In 2023, intense heat waves led to the shattering of global temperature records three times within a week.[1] Extreme weather is particularly pronounced in Asia and the Pacific, where there's an alarming increase in the frequency and intensity of heat waves, severely impacting public health, productivity, infrastructure, and food security.

Public Health

- At 1.5°C of warming, 2.3 billion people could be vulnerable to severe heat waves.[2]
- Unless carbon emissions substantially decrease, up to 75% of people could face deadly heatwaves by 2100.[3]
- About 489,000 people are estimated to have died annually due to heat between 2000 and 2019, with Asia placed under an exceptionally high burden, having suffered 45% of the deaths.[4]

Productivity

- Globally, humid heat is linked to over 650 billion hours of annual labor loss, equivalent to 148 million full-time jobs, exceeding previous estimates by 400 billion hours. This labor loss is similar in scale to that caused by the COVID-19 pandemic.[5]
- The number of working hours lost to heat stress in South Asia will be particularly high, projected at 5.3%, equivalent to 43 million full-time jobs.[6]
- ASEAN markets could lose about 37% of GDP by 2048 if no action on climate is taken.[7]

Infrastructure

- Two-thirds of large companies globally have assets vulnerable to extreme heat, leading to machinery degradation, frequent breakdowns, and increased maintenance costs.[8]
- Heat leads to a 50% increase in electricity demand during the summer in hotter countries, posing serious threats of electricity shortages or blackouts.[9] Asia is especially at risk, having warmed at twice the speed of the global average in the past 30 years due to its huge land mass.

Food Security

- Occupational heat-related mortality is 35 times higher among agricultural workers compared to workers from other sectors.[10]
- Heat stress to be extreme risk for 71% of global food production by 2045.[11]
- About 80% of the global population most at risk from crop failures and hunger due to climate change is in sub-Saharan Africa, South Asia, and Southeast Asia, where agricultural workers are disproportionately poor and vulnerable.[12]
- 31% of Southeast Asians indicated that extreme weather was the main threat to their country's food security. This number jumps to 43% among Thai respondents, 54% for Myanmar and 67% for Viet Nam.[13]

How does heat stress impact women?

Heat stress indiscriminately impacts everyone but intensifies for women and girls, particularly those working in heat-sensitive sectors. Recognizing this escalating vulnerability is essential for devising targeted, effective solutions.

Unpaid Domestic Labor

- For many women, rising temperatures mean increased domestic workloads, not accounted for in GDP. Up to 70% of their work hours are spent on unpaid labor, intensified by heat.[14]
- Recognizing this hidden labor highlights a 260% rise in heat-related losses for women, in contrast to 76% for men.[15]

Economic Toll

- In regions hit hardest by heat, the wage gap for women — who already earn 20% less than men — widens further. In India, Nigeria, and the United States, heat-related income losses for women total at least $120 billion.[16]
- Extreme heat affects outdoor informal workers (like street vendors and farmers) the most, particularly women, who face higher risks of job loss and increased unpaid duties like caregiving. In South Asia, nearly 25% of women employed work from home, versus only 6% of men.[17]
- In a survey across Bangladesh, India, and Nepal, over 40% of women reported reduced work hours and earnings in informal jobs due to extreme heat, with some facing a 30% productivity drop.[18]

Dual Health Burden

- Heat creates a double burden for women due to additional care responsibilities associated with heat-related illness.
- Women's vulnerability to heat stress is heightened by physiological factors, especially during pregnancy, limited healthcare access, and increased susceptibility to gender-based violence, leading to serious health issues like exhaustion, dehydration, and increased morbidity.
- By 2050, extreme heat could annually result in around 204,000 fatalities among women in India, Nigeria, and the United States.[19]
- For each 1°C rise in maternal heat exposure in warmer regions, there's a 27-42% increase in the risk of miscarriage or stillbirth.[20]
- Each 1°C rise in average annual temperatures also saw an 8% increase in physical violence and a 7.3% increase in sexual violence in India.[21]

ADB's Response

- Implementing a 3-year technical assistance project focused on enhancing women's resilience to heat stress.
- Investing in knowledge and support programs to understand the gendered impacts of heat stress.
- Supporting gender-responsive heat action planning in developing member countries.

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[4] https://asia.nikkei.com/Spotlight/The-Big-Story/Asia-s-climate-driven-health-crisis-raises-alarm-ahead-of-COP28

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