



## Knowledge, Attitudes and Practices on extreme heat: Insights from outdoor workers in Hanoi, Vietnam

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**Purpose:** Extreme heat threatens poor urban populations, and particularly those who are economically forced to work in the outdoors and hot environments. Thus, the Vietnamese Red Cross, with technical support from the German Red Cross, is implementing a Forecast-based Financing project to assist vulnerable population groups in urban areas before and during heatwaves. In order to inform this humanitarian project on choosing appropriate early actions, this research investigates empirical evidence on heat vulnerability using data from a “Knowledge Attitudes Practices” (KAP) survey conducted in 2018 among outdoor workers in Hanoi, Vietnam.

**Methods:** We analyze the outcome of the KAP survey, which comprised 1027 respondents classified into four different occupation groups. Key questions comprised respondents’ self-reported economic and health situation, impacts from past heatwaves, as well as on knowledge about measures reducing health impacts from extreme heat. We first use descriptive statistics to assess the basic properties of the surveyed population groups. We then use a principal component analysis to identify properties that best captured the variability of responses and to identify sub-groups.

**Results:** The different occupation groups surveyed (builders, vendors, bikers) showed distinctively different properties, not only in mean age (28 year, 45 years and 43 years respectively), but also in their knowledge about heat-health symptoms and their access to night-time air-conditioning (builders: only 14% compared to 42% for bikers). Air-conditioning access did not correlate with reported income. Builders knew considerably less about heat risk than other groups, but also reported fewer perceived symptoms. The three most common health symptoms reported were tiredness, sweating and thirst, with 22% of respondents having sought medical advice because of heat-related symptoms. Income reduction during heat events was reported by 48% of respondents. The vast majority of respondents have reported to increase drinking (89%) or to remain in shaded areas (87%). Most respondents (76%) could access and understand weather forecasts and early warnings.

Conclusion: Our data and analysis highlight how different occupation groups of outdoor workers in Hanoi vary in their socio-economic properties and their vulnerability to extreme heat. These insights into different groups can be used to direct the implementation of early actions for anticipatory humanitarian assistance before and during heatwaves.