

Assessing Health and Environmental Impacts of 2023 Maui Wildfires on Asian Americans (Interdisciplinary Project: Social Science and Engineering)



• PROJECT BACKGROUND

- 2023 wildfires severely impacted Maui County.
- Asian Americans form a significant part of Maui's population.

• AIM OF THE PROJECT

- To explore mental and physical health impacts on Asian American survivors.
- To theorize potential soil contamination (based on existing data, not actual samples).

• METHODS

- Semi-structured interviews with 37 community members.
- Hypothetical soil contamination analysis using data from HI Dept. of Health & EPA.

KEY FINDINGS

• HEALTH & MENTAL HEALTH IMPACTS

- Persistent stress, anxiety, and “hopeless” feelings.
- Burnout: reluctance to talk to outsiders (research fatigue).

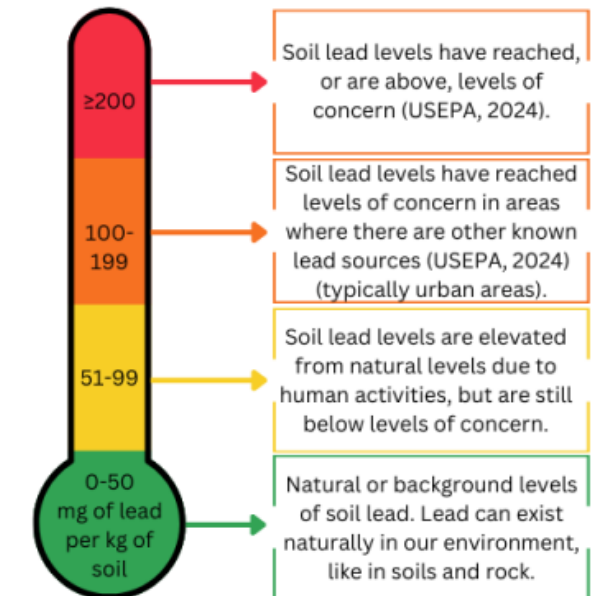


• RECOVERY CHALLENGES

- Maui’s geographical isolation slows rebuilding.
- Macroeconomic strain (housing shortages, tourism disruptions).
- Criticism of FEMA’s “top-down” approach; local community wants more inclusive strategies.

• HYPOTHETICAL SOIL CONTAMINATION

- Possible elevated lead (up to 500 mg/kg vs. 200 mg/kg EAL).
- Raises concern over arsenic, PAHs, and other contaminants.



Source: USEPA. (2024). USGS background soil-lead survey: State Data.

<https://www.epa.gov/superfund/usgs-background-soil-lead-survey-state-data>

LESSONS LEARNED

• CULTURALLY SENSITIVE SUPPORT

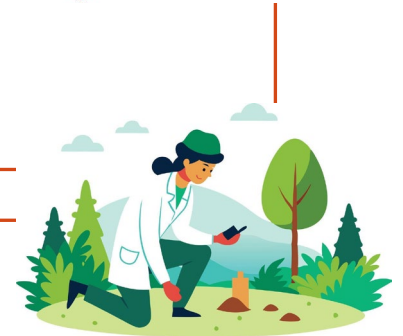
- Long-term mental health services tailored to language and cultural needs.
- Community-led efforts are more trusted; partner with local groups.

• FLEXIBLE, BOTTOM-UP DISASTER RECOVERY

- Address specific local conditions instead of one-size-fits-all policies.
- Ongoing communication between residents, local government, and federal agencies.

• ENVIRONMENTAL MONITORING & REMEDIATION

- Conduct on-site soil sampling as soon as feasible.
- Develop clear public guidance on potential risks and safe rebuilding strategies.



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Aim: This study explores the health impacts and potential soil contamination resulting from these fires, with a specific focus on the Asian American community in Maui County.

Methods: examined the lived experiences of Asian American survivors, community perceptions of disaster recovery, and theoretical soil contamination in affected areas using semi-structured interviews and hypothetical soil contamination analyses (existing data from the Hawaii Department of Health and the U.S. Environmental Protection Agency (EPA) on coastal sediments and beach sand compositions).

Findings: Revealed substantial mental health challenges among survivors and theorized elevated contaminant levels in urban and residential zones.

Themes from the qualitative study: 1) Maui's geographical characteristics make the recovery process longer; 2) macroeconomic impact causes indirect, long-term challenges; 3) questions about the Federal Emergency Management Agency's (FEMA) approach; 4) survivors' burnout leading to reluctance to open up and share their stories; and 5) mental health and health impacts.

Soil sample findings: We estimate that lead concentrations in these areas could reach up to 500 mg/kg, significantly exceeding the Environmental Action Level of 200 mg/kg for residential soil set by the Hawaii Department of Health. This theoretical level is also notably higher than the average lead concentrations found in coastal sediments (41.7 mg/kg) and beach sand (11.7 mg/kg) as reported in existing data from the Hawaii Department of Health.

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