# ASHRAF COLONY

## SUMMARY OF RESULTS

FROM THE RESEARCH PROJECT
*CLIMATE-RESILIENT SLUMS:*
*A SYSTEMS APPROACH FOR INCLUSIVE CLIMATE IMPACT ASSESSMENT*

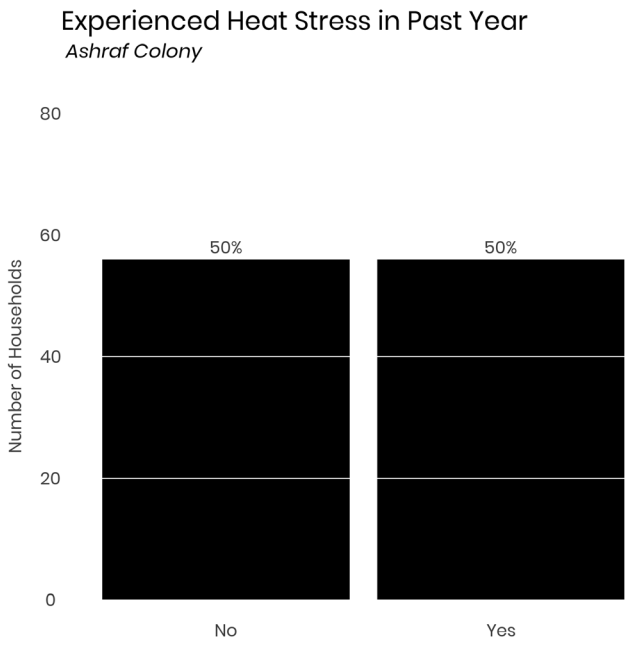
For further information see the online dashboard here:
https://waterresilientcities.shinyapps.io/RAEng/

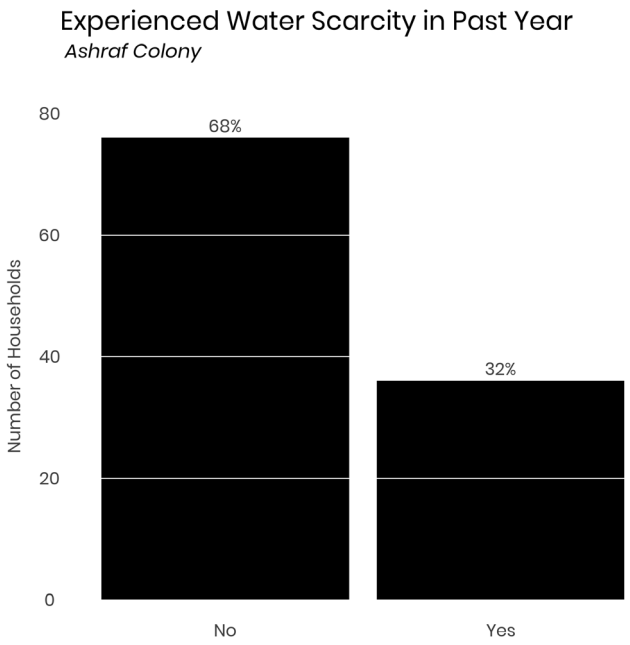
Or contact: m.bedinger@hw.ac.uk

## *PROFILE*

Ashraf Colony is the third largest area in the study. There were **112** respondents representing **693** people. For every household, there are **6.2** residents, making this the 3rd densest area. All areas had a median age of ~37 years and mean age of ~39 years, roughly consistent with the overall means. In Ashraf Colony, respondents' ages ranged from 21-80.

In the past year, **almost all (> 98%)** households experienced flooding, **50%** experienced heat stress, and **32%** experienced water scarcity. Thus the most widespread hazard was flooding, followed by heat stress, then water scarcity.

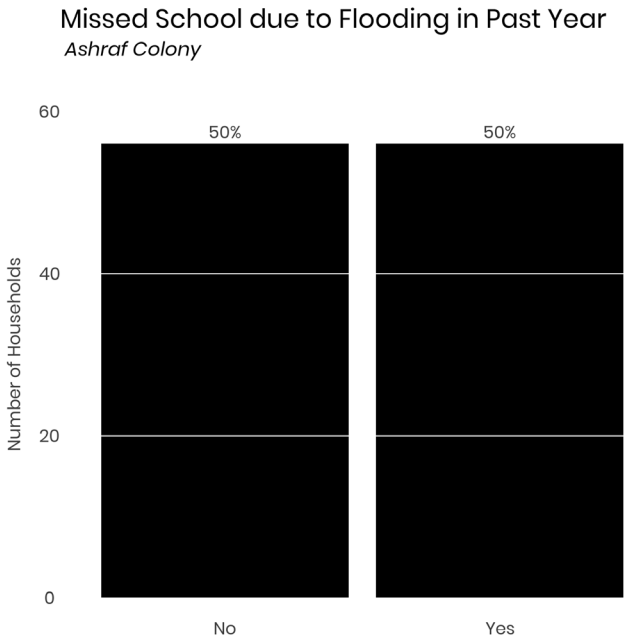


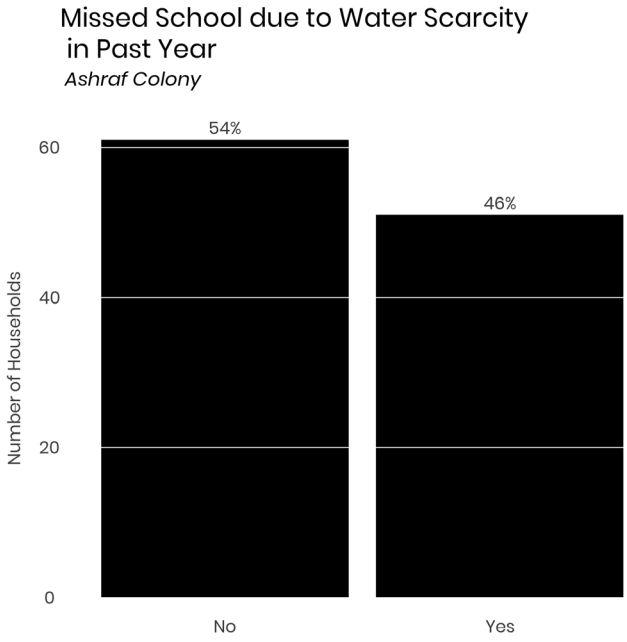




Collectively, Ashraf Colony experienced **3,879 days** of water scarcity and **289 days** of heat stress. On average in the past year, each household experienced **35.6 days** of water scarcity, and **2.6 days** of heat stress (the lowest rate of any area). No information was gathered about number of days flooding was experienced. Thus the most severe hazard was water scarcity, followed by heat stress, though it should be noted no data around flooding was gathered for a comparison.

## *EDUCATION*

In the past year, **50%** had a child miss school at least once due to flooding, **46%** of households had a child miss school due to water scarcity, and **~25%** had a child miss school due to heat stress. Thus the most widespread threats to missing school were flooding, followed by water scarcity, then heat stress.




Collectively, households in Ashraf Colony experienced **342 days** of missed school due to flooding, **328 days** of missed school due to water scarcity and **134 days** of missed school heat stress. On average in the past year, each household had a child miss school due to flooding for **3.1 days** (the highest rate of any area), water scarcity for **2.9 days**, and heat stress for **1.2 days**. Thus the most severe threat to missing school was flooding, followed by water scarcity, then heat stress.

## *EMPLOYMENT*

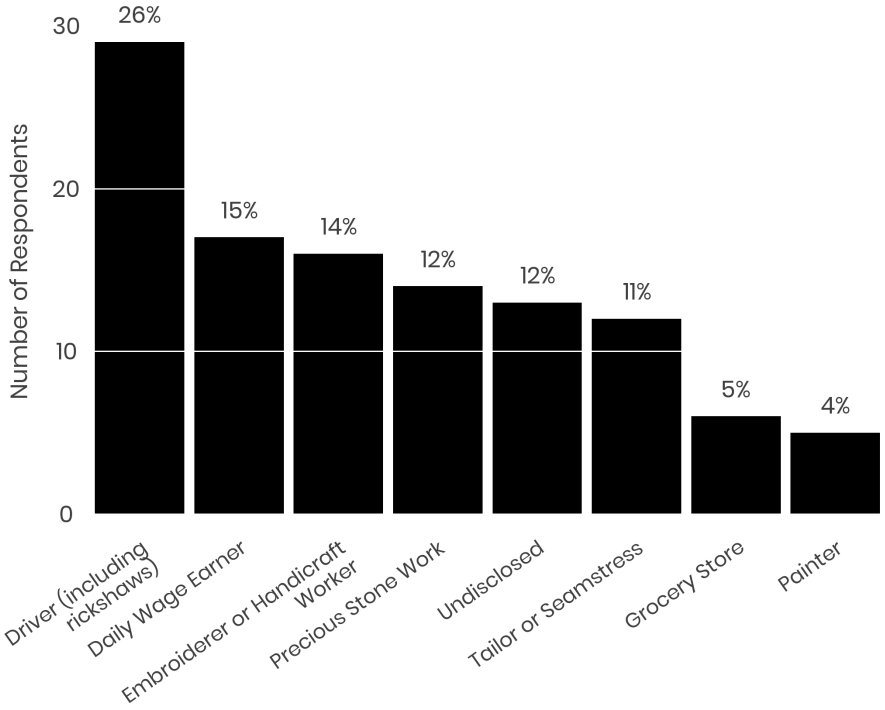
The most common job types in Ashraf Colony were *Driver (including rickshaws), Daily wage earner, Embroiderer or handicraft worker,* and *Precious stone work.*

In general, **47%** of respondents were informally employed. **70%** of respondents performed at least some of their work outside the slum.

In the past year, **50%** of households lost work due to flooding. **38%** of households lost work due to heat stress (the lowest rate of any area), and **35%** lost work due to water scarcity. Thus the most widespread threat to losing work was flooding, followed by heat stress, then water scarcity. Collectively, households in Ashraf Colony experienced **302 days** of lost work due to flooding, **221 days** of lost work due to water scarcity, and **~220 days** of lost work due to heat stress. On average in the past year, each household lost work due to flooding for **2.7 days**, water scarcity for **2.0 days**, and heat stress for **~2.0 days**. Thus the most severe threat to losing work was flooding, followed by water scarcity, then heat stress.

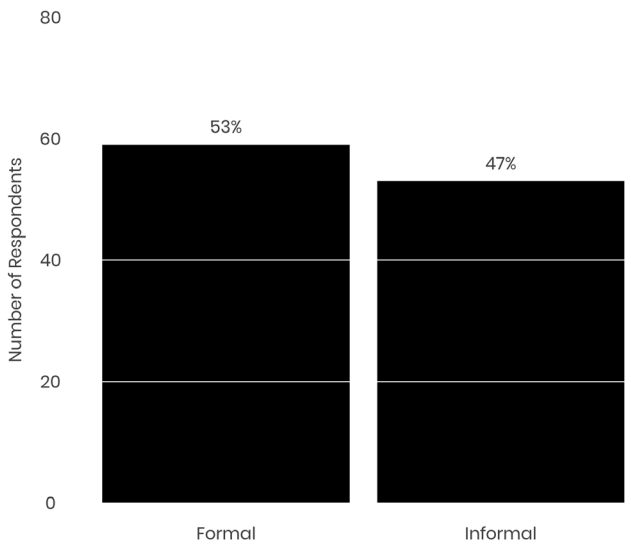
Most Common Job Types

*by Questionnaire Response, Ashraf Colony*



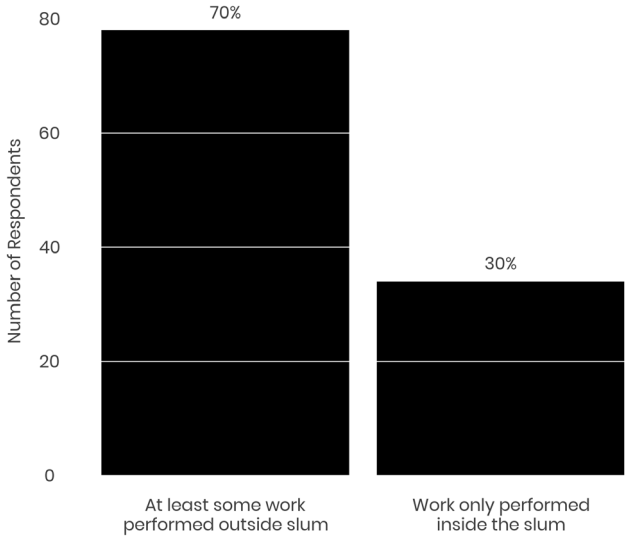

Formal vs. Informal Employment

*Ashraf Colony*




Typical Work Location

*Ashraf Colony*



## *INFRASTRUCTURE*

The main sources of drinking water and domestic water by far was *Tanker supplied privately.*

The main point of access to a toilet was *Own toilet within dwelling* or *Own toilet near dwelling*.

The main point of access to bathing facilities was a *Permanent bathroom (with wall and roof) within the house premises*. The main type of electricity connection was *Legal, metered.*

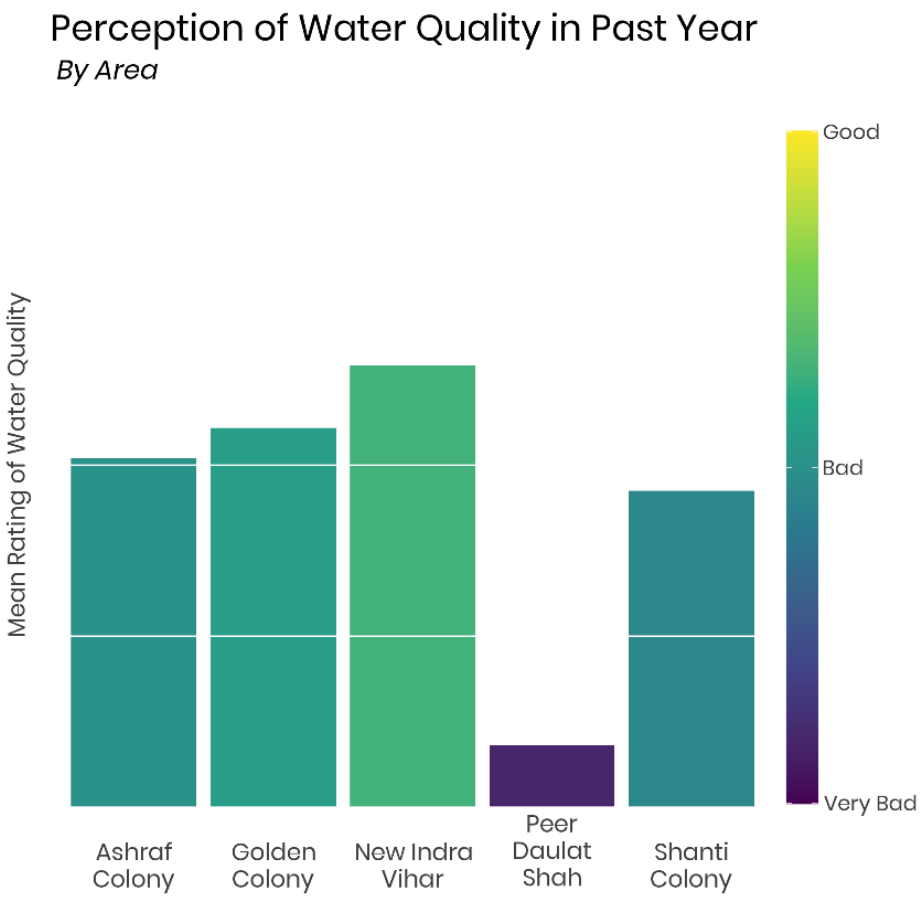
The most commonly reported set of impacts (28% of responses in Ashraf Colony) were for all four uses *Cooking, Drinking, Household sanitation, Personal sanitation.*

The majority of households (≥ 95% of responses in Ashraf Colony) needed to purchase water *Daily, for drinking and domestic purposes.*

The most common coping measures taken to adapt to water scarcity were *Less domestic use, Less personal use, Less appliance use, More storage,* and *None.* This suggests uptake could be improved for *Used conservation tool* or *Used rainwater harvesting*.

**63%** of households experienced property damage because of flooding.

On average, residents rated their water quality as ***Bad***.



## *URBAN SYSTEMS*

*Outcomes* are goals for making cities and communities resilient to change. When outcomes are strained, it means the current situation has put these prerequisites for future resilience at risk. All three types of hazard (flooding, heat stress, and water scarcity) all impacted one outcome with a **+1%**/**+1%**/**+1%** strain. This was *Minimal vulnerability*, or the extent to which everyone's basic needs (e.g. food, water, clothing, housing) are met.

*Tasks* are the activities needed for a city to function. When tasks are impacted, it means those activities have been prevented from being performed to their normal level. All three types of hazard (flooding, heat stress, and water scarcity) had the same top three most impacted tasks, but with varying severity. These were:

- *Clothing provision* (**+23%**/**+20%**/**+20%** more vulnerable than normal). This includes tasks that provide clothing through manufacturing, the supply chain, and maintenance services.
- *Animal welfare* (**+11%**/**+9%**/**+9%** more vulnerable than normal). This includes tasks that contribute to the welfare of domesticated animals, livestock and wildlife.
- *Goods and services provision* (**+5%**/**+5%**/**+5%** more vulnerable than normal). This includes business activity that provides goods and services.

For Ashraf Colony, all three types of hazard had similar impacts on activities in the 'urban system', with flooding having the biggest impact by a small margin. All three types of hazard also had similar impacts on resilience outcomes.