PEER DAULAT SHAH

SUMMARY OF RESULTS

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

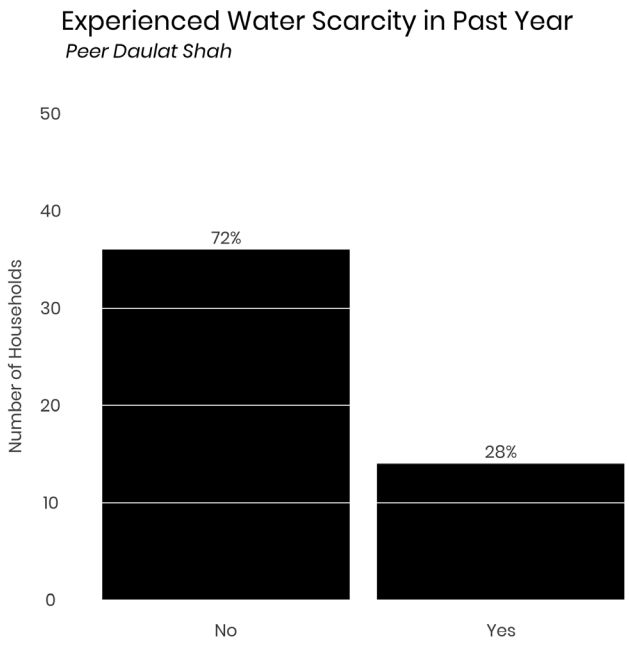
For further information see the online dashboard here:
https://waterresilientcities.shinyapps.io/RAEng/

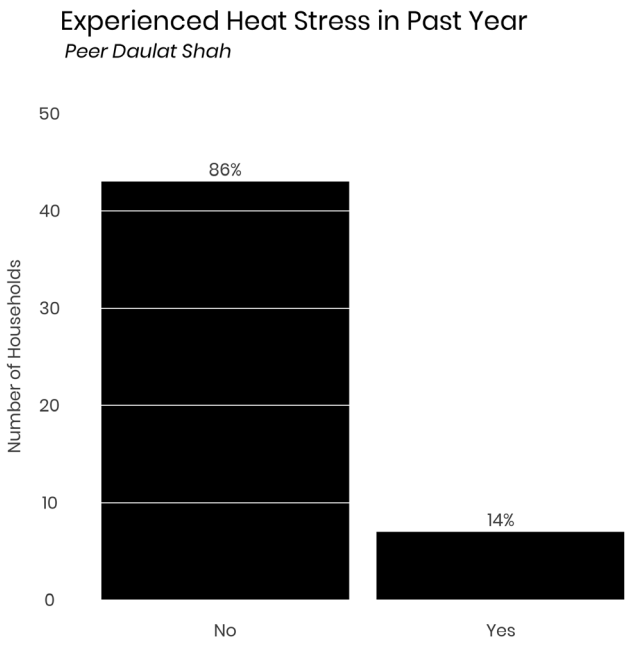
Or contact: m.bedinger@hw.ac.uk

PROFILE

Peer Daulat Shah is the largest area in the study. There were **50** respondents representing **225** people. For every household, there are **4.5** residents, making this the 4th densest area. All areas had a median age of ~37 years and mean age of ~39 years, roughly consistent with the overall means. In Peer Daulat Shah, respondents' ages ranged from 25-70.

In the past year, **almost all (> 98%)** households experienced flooding, **28%** experienced water scarcity, and **14%** experienced heat stress. Thus the most widespread hazard was flooding, followed by water scarcity, then heat stress.

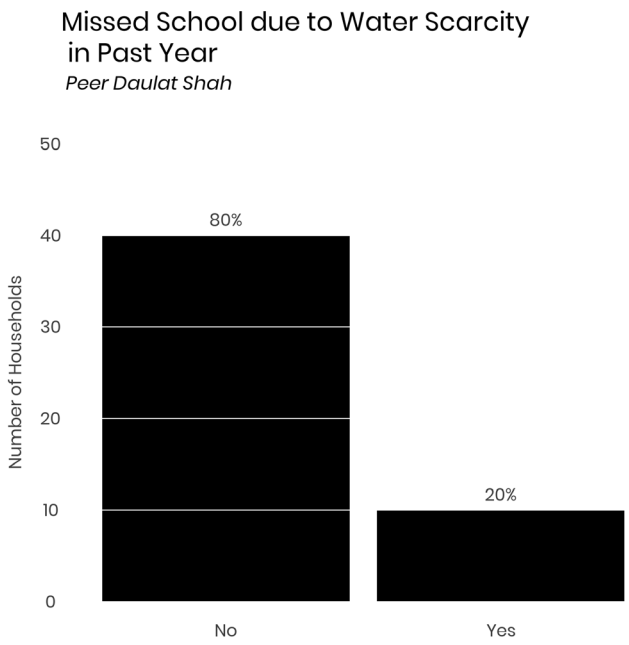


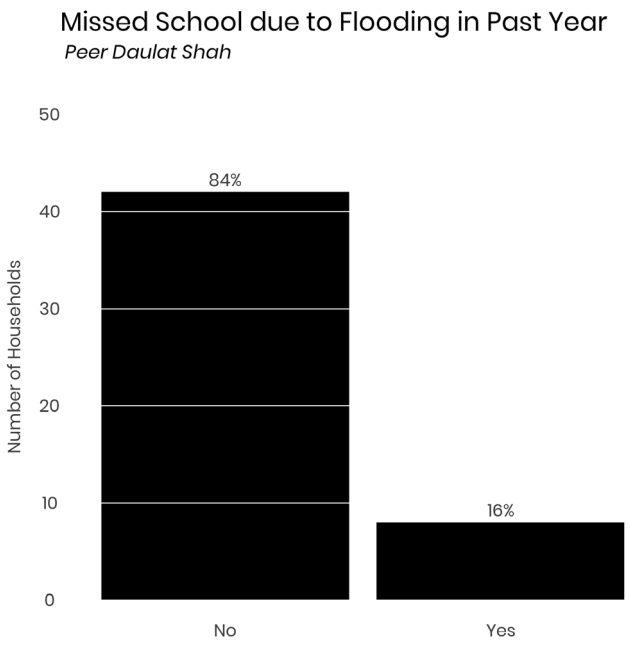


Collectively, Peer Daulat Shah experienced **2,138 days** of water scarcity and **232 days** of heat stress. On average in the past year, each household experienced **42.8 days** of water scarcity, and **4.6 days** of heat stress. No information was gathered about number of days flooding was experienced. 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, **20%** of households had a child miss school at least once due to water scarcity, **16%** had a child miss school due to flooding, and **very few to no (≤ 10%)** households had a child miss school due to heat stress. Thus the most widespread threats to missing school were water scarcity followed by flooding, then heat stress. However, all three of these figures are the lowest rates for any of the surveyed areas.

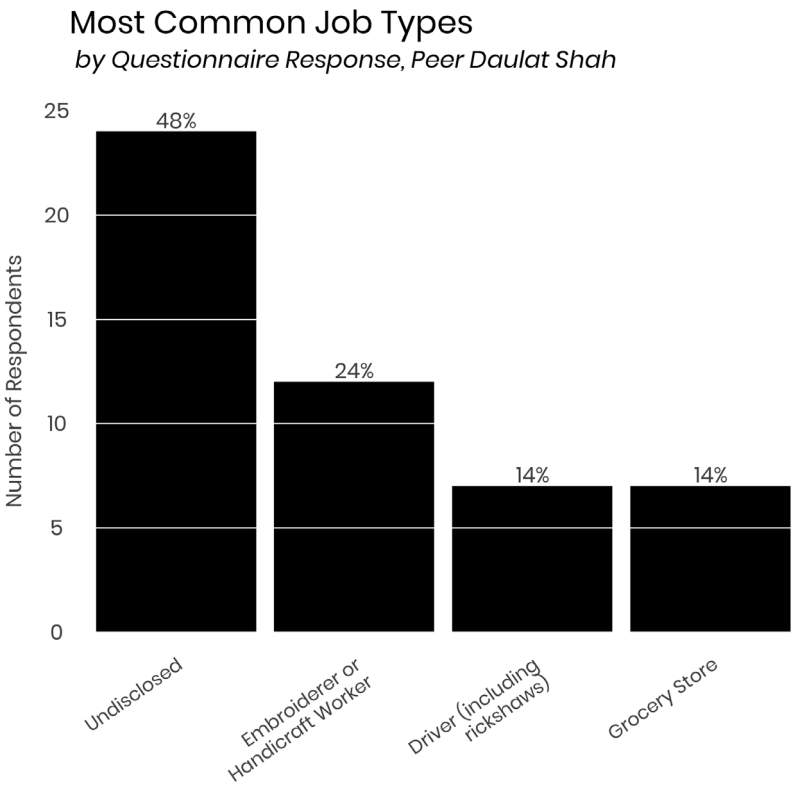




Collectively, households in Peer Daulat Shah experienced **60 days** of missed school due to water scarcity, **42 days** of missed school due to flooding, and **8 days** of missed school due to heat stress. On average in the past year, each household had a child miss school due to water scarcity for **1.2 days**, flooding for **0.8 days**, and heat stress for **0.2 days**. Thus the most severe threat to missing school was water scarcity, followed by flooding, then heat stress. However, all three of these figures are the lowest rates for any of the surveyed areas.

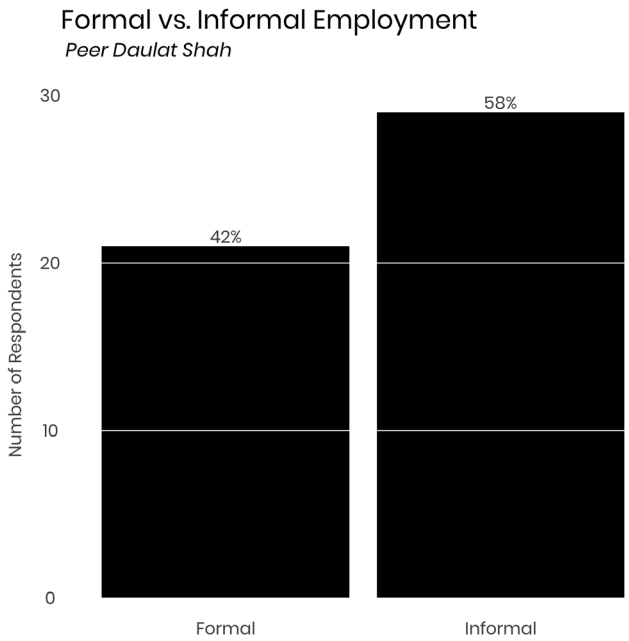
EMPLOYMENT

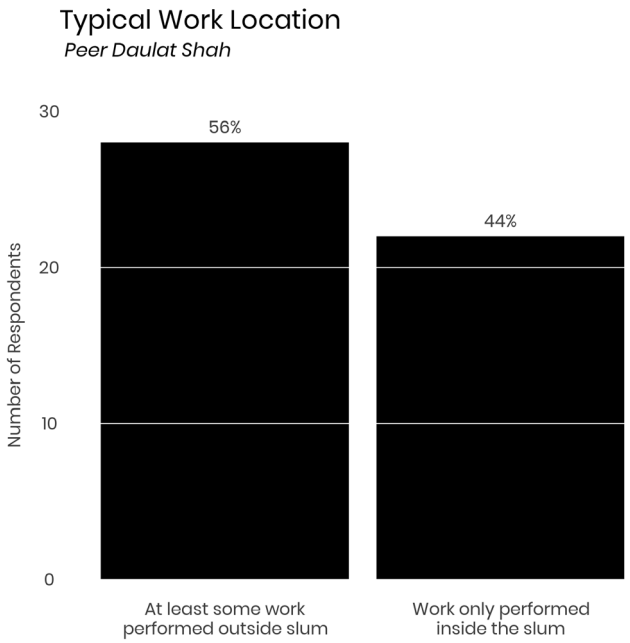
The most common job types in Peer Daulat Shah were *Undisclosed, Embroiderer or handicraft worker, Driver (including rickshaws)* and *Grocery store.* In general, **58%** of respondents were informally employed. **56%** of respondents performed at least some of their work outside the slum, the lowest rate of any area.



In the past year, **42%** of households lost work due to heat stress. **Very few to no (≤ 10%)** households lost work due to flooding and **very few to no (≤ 10%)** lost work due to water scarcity (the lowest rate of any area). Thus the most widespread threat to losing work was heat stress, then to a much lesser degree, flooding and water scarcity.

Collectively, households in Peer Daulat Shah experienced **98 days** of lost work due to water scarcity, **20 days** of lost work due to flooding, **≤ 5 days** of lost work due to heat stress. On average in the past year, each household lost work due to water scarcity for **2.0 days**, flooding for **0.4 days**, and heat stress for **≤ 0.1 days**. Thus the most severe threat to losing work was water scarcity, followed by flooding, then heat stress.





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.*

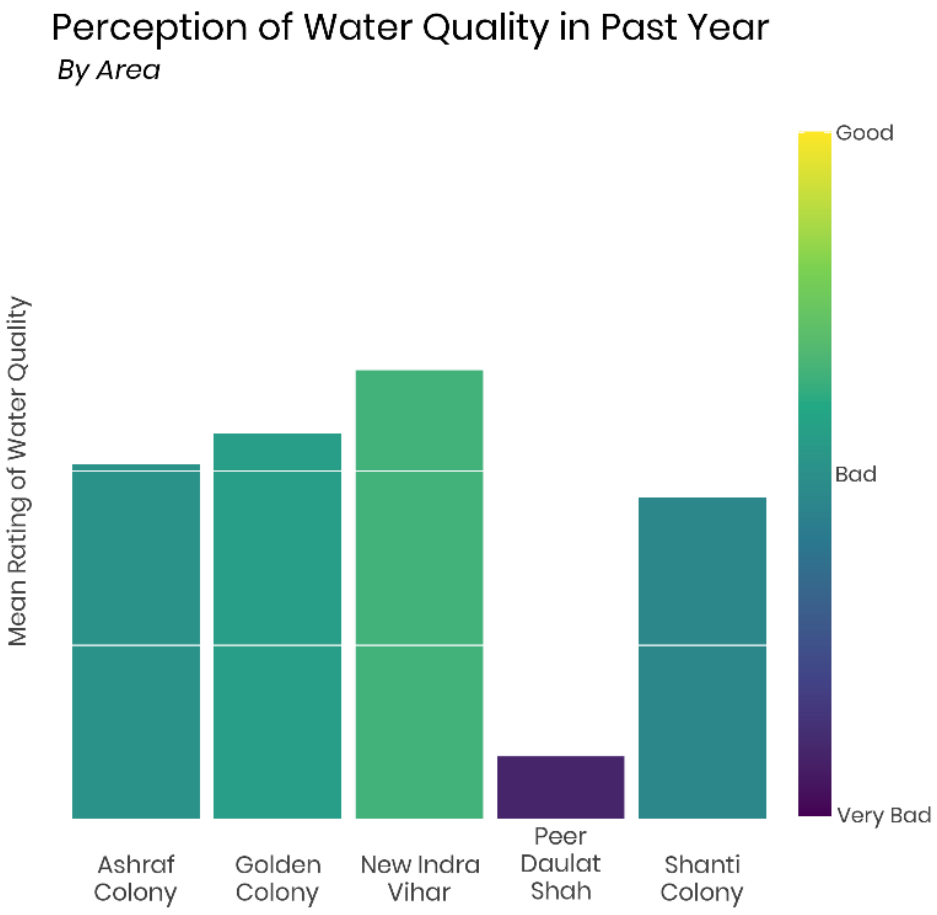
The most commonly reported set of impacts (44% of responses for Peer Daulat Shah) were for all four uses *Cooking, Drinking.*

The majority of households (≥ 90% of responses in Peer Daulat Shah) needed to purchase water *Daily, for drinking and domestic purposes.*

The most common coping measure taken to adapt to water scarcity was *None.* This suggests uptake could be improved by implementing all types of measures, including *Less personal use, Less domestic use, Less appliance use, More storage, Used conservation tool* or *Used rainwater harvesting*.

Very few to no (≤ 10%) of households experienced property damage because of flooding, the lowest rate of any area.

On average, residents rated their water quality as ***Very Bad***. This was the lowest rating of any area.

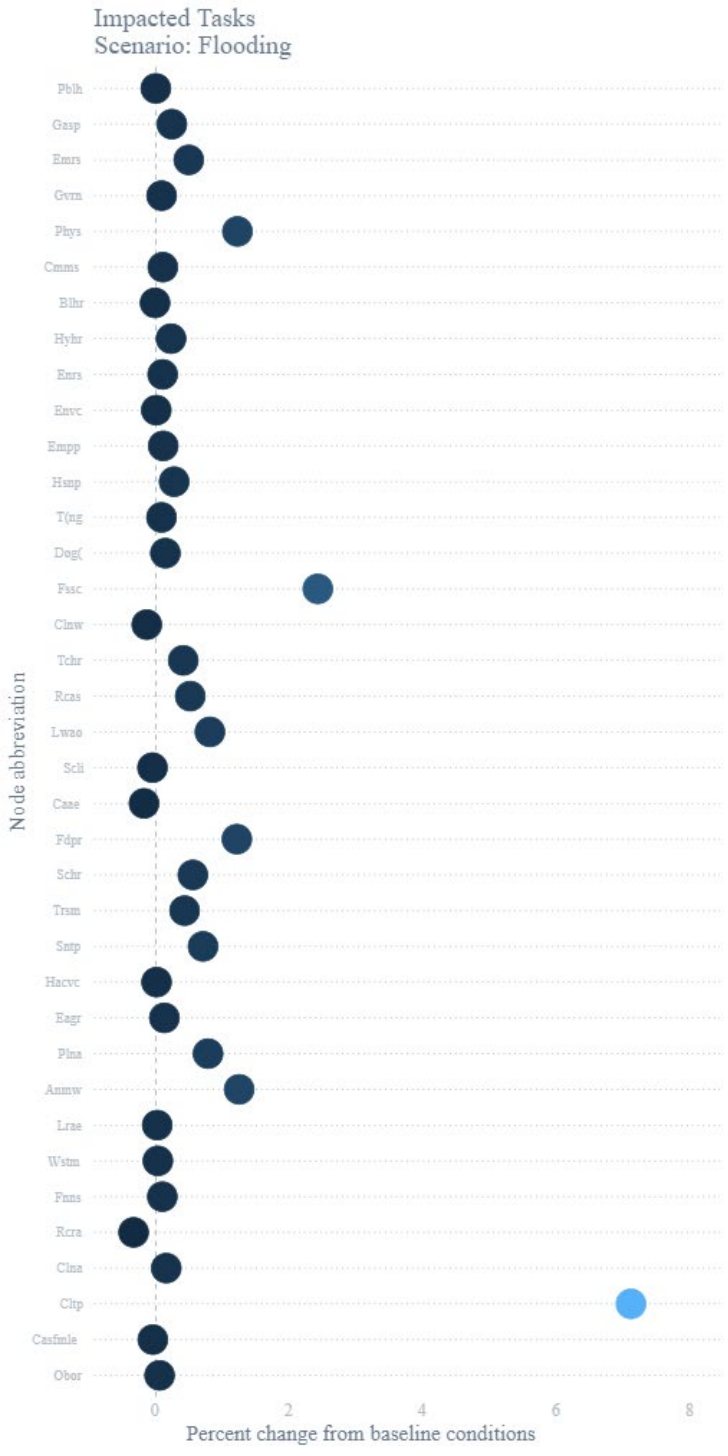


URBAN SYSTEMS

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. In Peer Daulat Shah, none of the three hazard types (flooding, heat stress, and water scarcity) were extreme enough to cause any substantial strain on resilience outcomes.

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. The top three most impacted tasks varied by hazard, and included:

- *Clothing provision* (**+7%** more vulnerable than normal). This includes tasks that provide clothing through manufacturing, the supply chain, and maintenance services.
- *Learning and education* (**+2%**/**+2%** more vulnerable than normal). This includes tasks that enable learning and education in a formal capacity as well as informal capacity (e.g. from cultural and recreational learning).
- *Social interaction* (**+2%**/**+2%** more vulnerable than normal). This includes functions that support meaningful social interaction within a city.
- *Employment provision* (**+2%**/**+2%** more vulnerable than normal). This includes tasks that enable access to employment, provision of employment, and wellbeing in the workplace.
- *Foster social cohesion* (**+2%** more vulnerable than normal). This includes tasks that enable communities to be inclusive and contribute to neighbourliness.



For Peer Daulat Shah, flooding had the largest impacts on activities in the 'urban system', while heat stress and water scarcity had smaller and more evenly spread impacts. There were no impacts on resilience outcomes.