

Comfort, health and energy-use behavior for homeostasis in informal settlements

Investigating sustainability of the slum rehabilitation process in Mumbai using backcasting approach

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Overview

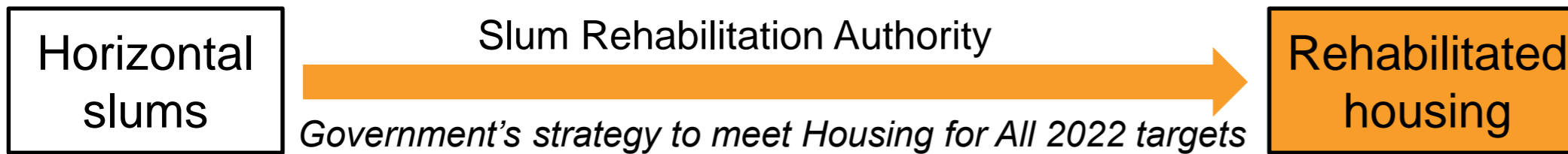
Broad scope of this study:



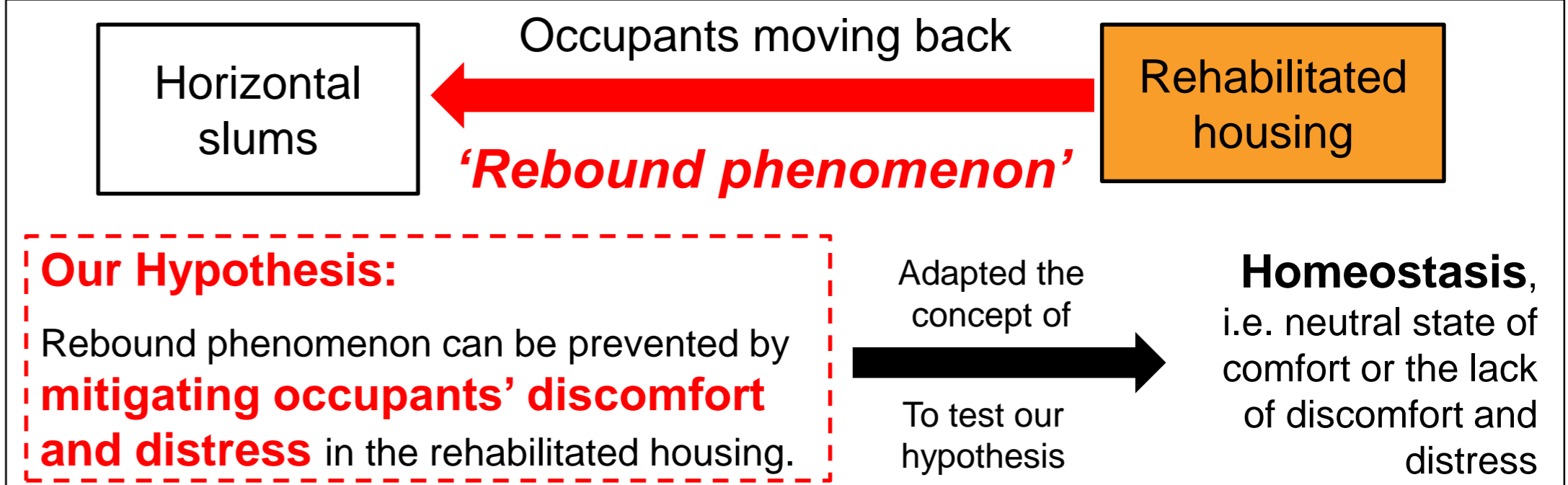
SDG 11: TARGET 11.1

By 2030, ensure access for all to adequate, safe and affordable housing and basic services.

- India's **commitment** towards SDG 11 → **Housing for All 2022** scheme
- In Mumbai, more than 50% of the 18.41 million people lives in informal settlements like slums.
- Government is addressing this problem through **Slum Rehabilitation Authority** by providing **free housing** to the slum dwellers, called **Slum Rehabilitation Housing**.



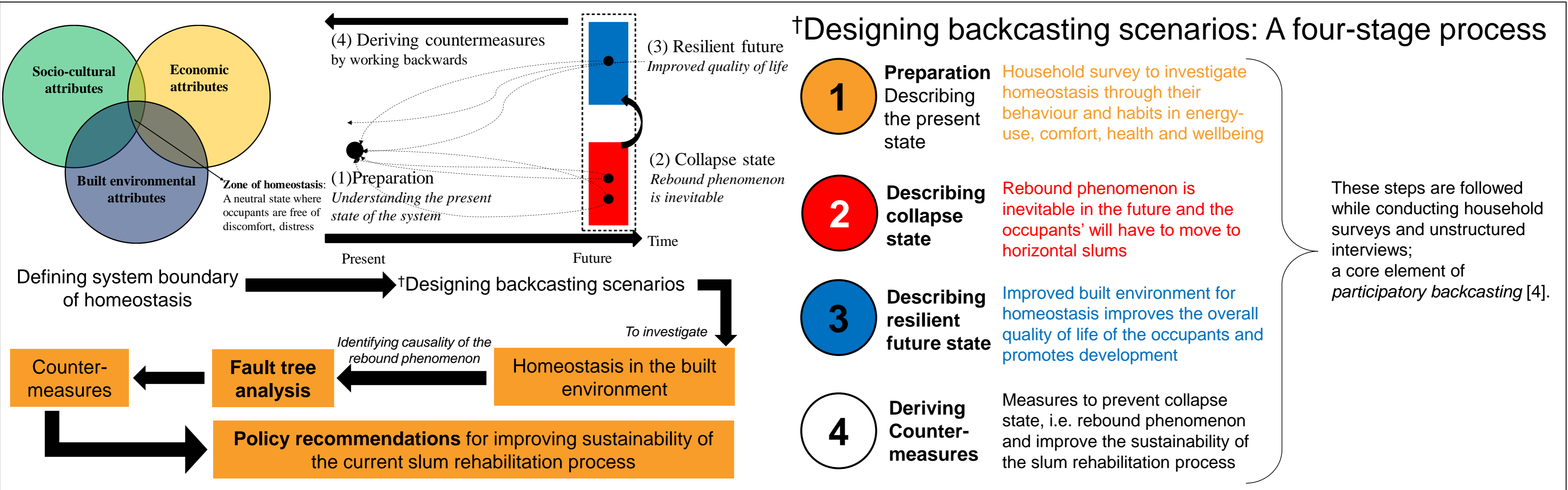
Problem statement and research questions



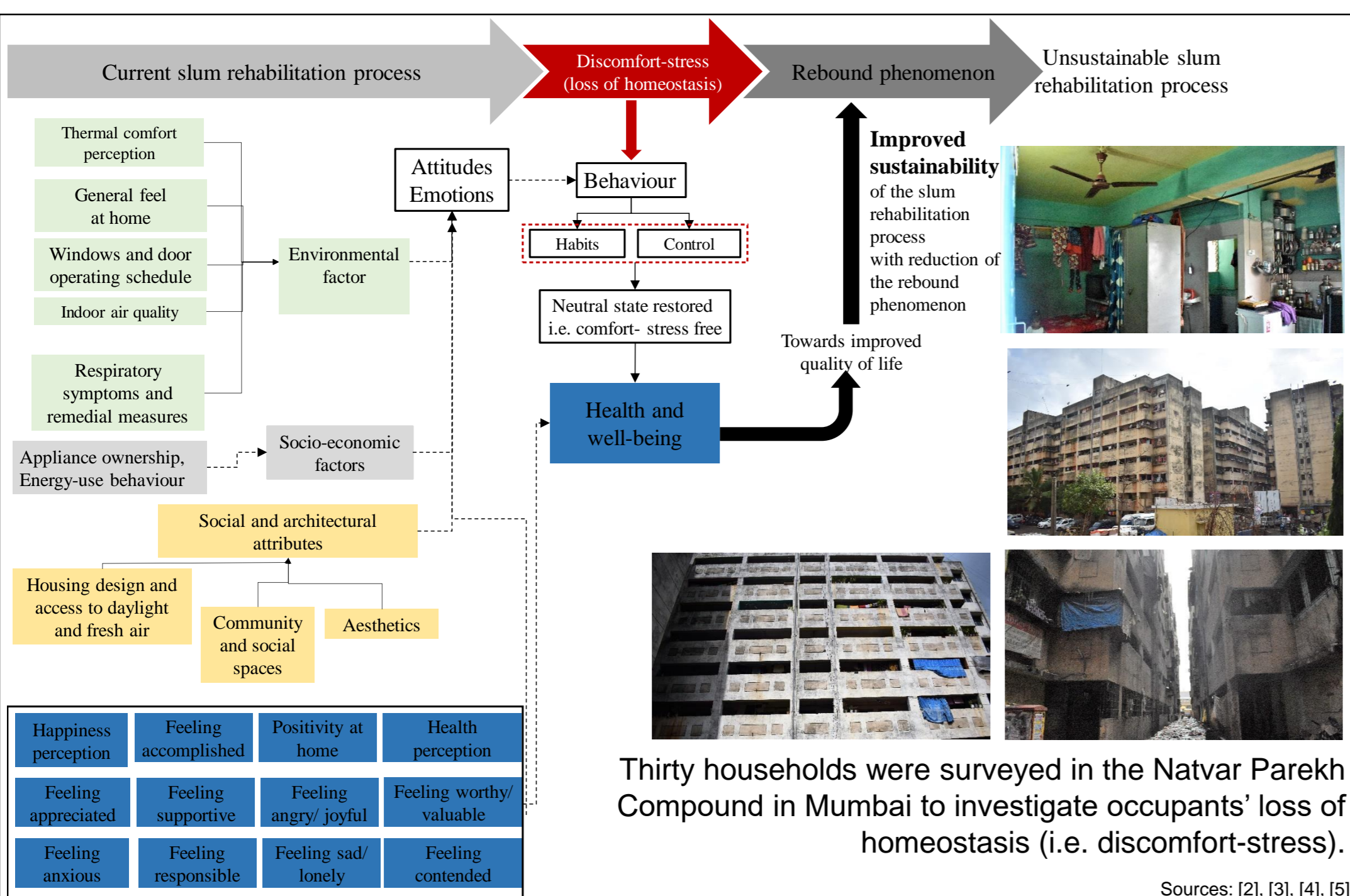
Research questions:

1. What causes distress or discomfort (i.e. *loss of homeostasis*) in slum rehabilitation housing ?
2. What could be the countermeasures to prevent loss of homeostasis, and reduce this rebound phenomenon to improve the sustainability of the rehabilitation process?

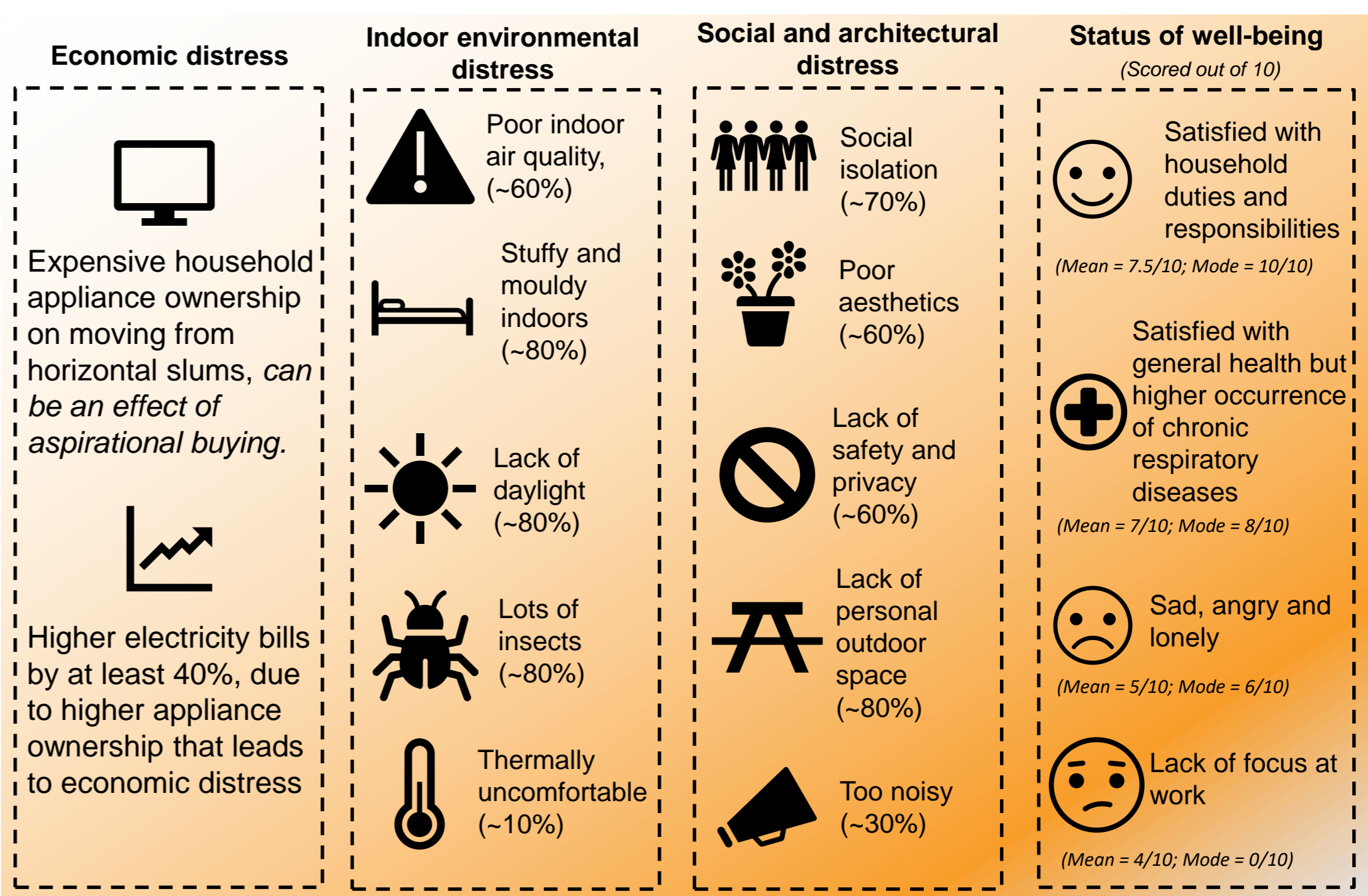
Methodology: Backcasting to investigate the cause of rebound phenomenon



Survey design



Results: Cause of distress



Initial conclusion

- Lack of social and community spaces in the current rehabilitation housing design leads to social isolation and loneliness. It affect the well-being of the occupants.
- Distress due to the poor built environment contributes significantly to the rebound phenomenon.

Work in progress

- Performing fault tree analysis on the survey results.
- Deriving counter measures based on the fault tree analysis and converting it to policy recommendations for the Slum Rehabilitation Authority.

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