

almost always greater than 0.25m/s with monthly averages of approximately 3.7m/s. Similarly, indoor air velocity measurements varied with recordings of 0.2 to 2m/s measured at window openings with higher readings in the afternoons, indicating that air movement levels could possibly have aided comfort.

CONCLUSION

Swahili houses serve as an example of a vernacular typology that developed as a result of the interplay of social-cultural and physical factors. An analysis of these factors has shown how this seemingly 'out of place' architecture came to be influenced by its interactions over a long period of time. In the initial part of the study, design recommendations were found to pointedly recommend a lightweight solution that capitalises on low thermal capacity and the physiological cooling effect of sensible air movement to make higher temperatures acceptable to users. On observation, Swahili architecture was found to be the anti-thesis of this strategy as it is densely packed, notably heavyweight and with comparatively fewer and smaller openings. Initial analysis suggests that the Swahili house exhibits a potentially suitable architectural and environmental response to the local context and climate. Identified design strategies included the use of:

1. Heavyweight building fabric to reduce the impact of solar radiation.
2. Mutual shading of the 2 to 3 storey high buildings to mitigate heat gain.
3. Pitched roof with a ventilated attic space to reduce impact of solar radiation at the zenith.
4. Screened balconies and shuttered windows to promote thermal regulation by channeling breezes and sun shading while meeting requirements for acoustic and visual privacy.
5. Light coloured envelopes enhanced reflective capabilities of exposed wall and roof surfaces.

Having thrived over centuries, Swahili architecture is manifested by a distinct typology that enriches the fringe of the East African coast. Even so, with increasingly rapid urbanization and the influence of 20th century modern architecture, cities in the region continue to grapple with deterioration of their built environment. This 'newer' and mainly lightweight architecture has been marked by the introduction of active measures that are costly and unsustainable. This has created the need to find viable climate responsive design alternatives. It is possible that implementable solutions lie in the architecture of vernacular Swahili housing - this paper is the start of this investigation. Although initial investigations suggest that the typology in combination with the aforementioned strategies is potentially an appropriate strategy in moderating the impact of the external climate on indoor conditions, further analysis is currently underway to outline in greater detail the suitability of this approach to warm-humid climate.

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