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Investigating the Thermal Comfort and Well-Being of Differently Abled War Veterans' Housing in Sri Lanka

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Wellbeing in the indoor built environment has become a crucial research topic in relation to thermal comfort which helps to improve sustainable built environments. Thus, thermal comfort requirements for humans is the main consideration in building design. It is important to consider comfort and wellbeing of people with physical disabilities. Thus, this research was conducted to investigate the indoor environment quality of spaces in relation to the 'thermal comfort in physically disabled war veterans' housing in the Sri Lankan context. An on-field investigation was carried out to obtain physical measurements of microclimatic parameters of interiors including indoor temperature, relative humidity and air velocity. Secondary data were collected through semi structured interviews. Results explicitly prove that the mean value of the operative temperature is 32.2°C, which is above the ASHARE 55-2013 standard for comfortable thermal conditions. Mean wind velocity is 0.25m/s, is low, as there is a high operative temperature adequate interior ventilation needs to be provided. The Humphries comfort equation states the required comfort temperature is 28.92°C, but the obtained mean operative temperature is more than this comfort temperature, which proves that the interiors are overheated. The most common adaptive behaviour of the veterans are switching fans on and moving toward open spaces. Results also indicate that there is a psychological link with thermal adaptive behaviour as these veterans opt to remain in free outdoor spaces rather than in confined spaces as their battlefields. Thus, this research paper highlights on the thermal conditions needed for interior spaces for disabled war veterans and in the long-run contributes to regulations to add developments to the National Policy on Disability in Sri Lanka.

Keywords: *thermal comfort, physically disabled people, indoor built environment*