

## **A Comparative Analysis of the Indoor Thermal Environment of a Room with and without Transitional Space or Threshold in Traditional Row Houses Adjacent to a Narrow Alley 'Rupchan Lane' in Old Dhaka, Bangladesh**

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**Abstract :** Attaining appropriate thermal comfort conditions in a place where the climate is hot and humid can be perplexing. Especially, when it resides at a congested place like old Dhaka Bangladesh, the provision of giving cross ventilation and building with proper orientation is quite difficult. This paper aims to investigate the indoor thermal environment of a room with and without transitional space or threshold in traditional row houses adjacent to a narrow alley of old Dhaka through field measurements. Transitional spaces are the part of buildings which are used for semi-outdoor household activities, social gathering and it is also proved to provide an indoor thermal effect. The field study was conducted by collecting thermal data (temperature, humidity and airflow) respectively, among the outdoor narrow alley, transitional space and adjacent indoor. This east-west elongated alley has an average width of 2.13 meter (varies from 1.5 to 2.6 meter) holding row houses on both sides. Among different aspects of thermal environment, the study of this paper is based on the analysis of temperature of corresponding cases. Other aspects and their variables were considered as constant (especially material) for accuracy and avoidance of confusion. This study focuses on the outcome that can ultimately contribute to the configuration of row houses with transitional spaces and in its relation to the adjacent outdoor space while achieving thermal comfort.

**Keywords :** alley, Old-Dhaka, row houses, temperature, thermal comfort, threshold, transitional space

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