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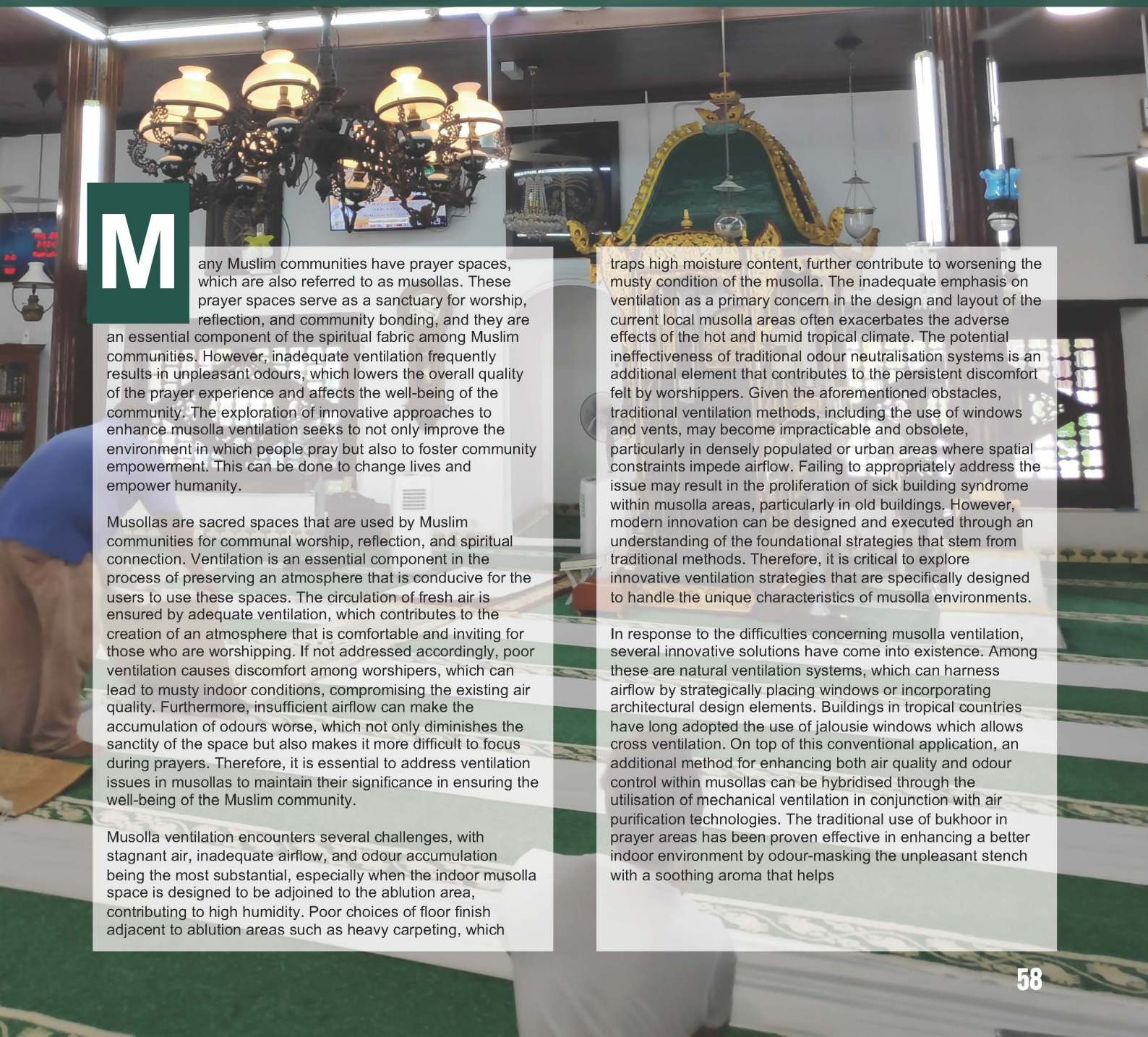
Enhancing Musolla Indoor Ventilation:

Towards Improving Prayer Spaces and Community Empowerment for Better Spiritual Nourishments



Many Muslim communities have prayer spaces, which are also referred to as musollas. These prayer spaces serve as a sanctuary for worship, reflection, and community bonding, and they are an essential component of the spiritual fabric among Muslim communities. However, inadequate ventilation frequently results in unpleasant odours, which lowers the overall quality of the prayer experience and affects the well-being of the community. The exploration of innovative approaches to enhance musolla ventilation seeks to not only improve the environment in which people pray but also to foster community empowerment. This can be done to change lives and empower humanity.

Musollas are sacred spaces that are used by Muslim communities for communal worship, reflection, and spiritual connection. Ventilation is an essential component in the process of preserving an atmosphere that is conducive for the users to use these spaces. The circulation of fresh air is ensured by adequate ventilation, which contributes to the creation of an atmosphere that is comfortable and inviting for those who are worshipping. If not addressed accordingly, poor ventilation causes discomfort among worshipers, which can lead to musty indoor conditions, compromising the existing air quality. Furthermore, insufficient airflow can make the accumulation of odours worse, which not only diminishes the sanctity of the space but also makes it more difficult to focus during prayers. Therefore, it is essential to address ventilation issues in musollas to maintain their significance in ensuring the well-being of the Muslim community.

Musolla ventilation encounters several challenges, with stagnant air, inadequate airflow, and odour accumulation being the most substantial, especially when the indoor musolla space is designed to be adjoined to the ablution area, contributing to high humidity. Poor choices of floor finish adjacent to ablution areas such as heavy carpeting, which traps high moisture content, further contribute to worsening the musty condition of the musolla. The inadequate emphasis on ventilation as a primary concern in the design and layout of the current local musolla areas often exacerbates the adverse effects of the hot and humid tropical climate. The potential ineffectiveness of traditional odour neutralisation systems is an additional element that contributes to the persistent discomfort felt by worshippers. Given the aforementioned obstacles, traditional ventilation methods, including the use of windows and vents, may become impracticable and obsolete, particularly in densely populated or urban areas where spatial constraints impede airflow. Failing to appropriately address the issue may result in the proliferation of sick building syndrome within musolla areas, particularly in old buildings. However, modern innovation can be designed and executed through an understanding of the foundational strategies that stem from traditional methods. Therefore, it is critical to explore innovative ventilation strategies that are specifically designed to handle the unique characteristics of musolla environments.

In response to the difficulties concerning musolla ventilation, several innovative solutions have come into existence. Among these are natural ventilation systems, which can harness airflow by strategically placing windows or incorporating architectural design elements. Buildings in tropical countries have long adopted the use of jalousie windows which allows cross ventilation. On top of this conventional application, an additional method for enhancing both air quality and odour control within musollas can be hybridised through the utilisation of mechanical ventilation in conjunction with air purification technologies. The traditional use of bukhoor in prayer areas has been proven effective in enhancing a better indoor environment by odour-masking the unpleasant stench with a soothing aroma that helps

Source: https://wiseimanaiqbale.blogspot.com/2022/10/masjid-sultan-zainal-abidin.html

the public concentrate better while performing the prayer (Yadav et al., 2020). On that notion, the implementation of odour-neutralising techniques, such as the use of essential oil diffusers or activated carbon filters for the treatment of indoor walls, can aid in the mitigation of unpleasant aromas. The hybrid of both applications can be adapted into infused aromatics for indoor musolla walls. This ideation may also take precedence from several case studies and pilot projects which have been undertaken to illustrate the efficacy of these novel solutions in various applications, for example in food packaging (Chaemsanit et al., 2018) to remove volatile organic compounds (VOCs) that are abundant in mainstream building paint. Understanding these strategies can lead to the potential for similar treatments to be implemented to augment the prayer environment and foster the welfare of worshippers.

Community involvement is considered as an essential component to effectively address issues related to musolla ventilation. A sense of ownership and responsibility among members of the community can be developed through the participation of community members in discussions regarding ventilation issues and possible solutions. By educating community members about the significance of ventilation and its effects on their health and well-being, initiatives can be taken to empower community members to take proactive measures in improving musolla environments and impart this knowledge. This collaborative approach not only fosters stronger community bonds through reciprocal maintenance but also guarantees that ventilation enhancements align with the needs and preferences of the community.

When assessing ventilation solutions for musollas, it is critical to consider the sustainability aspect. Additionally, long-term effects are also crucial to be considered. In order to assess the sustainability of implemented solutions, it is essential to conduct an analysis of their energy efficiency, maintenance needs, and cost-effectiveness. Sustainable ventilation systems exhibit the dual benefit of diminishing long-term expenses and safeguarding the environment, in addition to reducing energy consumption. Moreover, enhanced musolla ventilation may have more extensive implications for the health, well-being, and social unity of a community through the establishment of healthier and more inclusive spaces for Muslim community gatherings and reflection.

Moving forward, additional research and innovation are necessary for the built environment concerning musolla ventilation to effectively tackle the dynamic complexities and opportunities that may arise. Future research endeavours may explore the potential integration of intelligent building technologies—for instance, ventilation control systems that rely on sensors—to optimise airflow and energy utilisation within musolla spaces. Additionally, the process of developing scalable and cost-effective ventilation solutions has the potential to promote widespread implementation and adoption, especially in communities with limited natural resources. In order to drive innovation and sustainability in musolla ventilation practices, recommendations have been made to community leaders, architects, and policymakers. These recommendations include giving priority to ventilation improvements in musolla design and renovation projects, as well as fostering partnerships with researchers and industry stakeholders.

The enhancement of musolla ventilation is not only extremely important for the purpose of enhancing the prayer experience, but it is also essential for empowering communities to create spaces for worship and reflection that are healthier and more welcoming to all. Transforming musollas into vibrant hubs of spiritual nourishment and social empowerment by embracing innovative ventilation solutions and encouraging community engagement will result in the enrichment of the lives of worshippers and the strengthening of the fabric of humanity.

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Ts Azlan Ariff Ali Ariff
College of Built Environment,
UiTM Selangor Branch, Puncak Alam Campus

Assoc. Prof. Ts Dr Emma Marinie Ahmad Zawawi & Ts Dr Julitta Yunus
College of Built Environment, UiTM Shah Alam

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Department of Research & Innovation,
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