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IDENTIFICATION OF COMFORT SPACE ON INDONESIA'S MINISTRY OF RELIGIOUS OFFICE DESIGN'S

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ABSTRACT

This study aims to identify the comfort space in the Design of the Indonesian Ministry of Religious Office of the Regency/City for users. The method used is critical analysis based on architectural documents to explore on the comfort space principle in office design application. This study uses architectural design documents of the Indonesia's Ministry of Religious Office and precedent studies during the design process as main data. The results show the design of the Indonesian Ministry of Religious Office adopt universal and inclusive design for guests, natural lighting, passive design (windows, rosters, and cross ventilation), flexible modular layout and synergistic workspace, connecting space with the surrounding environment, and adapts to tropical climate in Indonesia. However, there are limitations to assistive devices for people with visual disabilities and needing privacy settings on window openings. This study recommends improvisation of the design for selected architects, quality control checks during the planning process to construction, and post-occupancy evaluation (POE) to ensure user rights and comfort.

Keywords: ***office; sustainable; the occupant; user comfort***

INTRODUCTION

Space is not only a container for human activities, but also a key factor that shapes human behavior, perception, psychological well-being, and performance. In workplace environments, the quality of space has a direct correlation with job satisfaction, mental health, and the efficiency of users' activities (Heerwagen et al., 2004; Vischer, 2007). Spaces that are not designed responsively to user needs often result in stress, discomfort, and reduced productivity (Bader et al., 2022). In addition, comfortable spaces enable users to feel connected, motivated, and supported in carrying out their activities (Wang et al., 2024). Therefore, optimizing workspace comfort through proper planning and design is essential to support user well-being and performance (Abbass et al., 2022).

A comfortable workspace must accommodate a broad range of user needs, including inclusivity for diverse users, spatial flexibility and adaptability, adequate natural lighting and air circulation, and connectivity to the surrounding environment. Inclusive public spaces allow all individuals to feel autonomous, valued, safe, and comfortable in utilizing the space, ensuring that human rights are upheld within the built environment (Patrick and McKinnon, 2022). Spatial adaptability ensures that a workspace can respond to dynamic work patterns and evolving organizational requirements (Tuti Lisnawati, 2024). Natural lighting supports user comfort and job satisfaction (Lashina et al., 2019), and contributes positively to users' mood and emotional energy (Edwards and Torcellini, 2002). Furthermore, lighting quality, spatial layout, furniture arrangement, and environmental views significantly influence the affective and cognitive responses of users (Lee et al., 2017). Air circulation also plays a crucial role, as improved air quality enhances comfort and productivity (Ranjbar, 2019). Visual connection to green outdoor spaces promotes psychological well-being and spatial comfort (Dhini et al., 2018), while green open spaces and building orientation help reduce indoor temperatures—an essential consideration for buildings in tropical climates, including the Ministry of Religious Affairs offices across Indonesia (Effendy and Aprihatmoko, 2018; Hadisoesilo and Muchsin. M., 2024; Harry wibowo and Sembiring, 2023).

The Ministry of Religious Affairs Office serves as an integrated public service center that serves a variety of religious activities (multi-activity) for various users (multi-user). Offices are not only to be functional for employees/occupants, but also be communicative, open to work and serve, and supporting to guests/the public who being served well (Abouelela, 2022). Through the Integrated One-Stop Service (PTSP) throughout the region, providing for various service activities for multiple users is a primary concern in improving public services. Therefore, it is important to assess and evaluate the performance of buildings that affect the comfort of users, especially in increasing the productivity and welfare of users, workers and visitors (Putra et al., 2025).

The importance of office comfort is inversely proportional to the physical infrastructure of Ministry of Religious Affairs offices, which remains unequal across regions. Data indicates that approximately 22% of district/city Ministry of Religious Affairs offices require repairs (including 13% that are severely damaged) and 9% do not yet have permanent offices (see image 1). Therefore, improvement of equity in service quality and enhance workplace comfort within Indonesia's Ministry of Religious Affairs offices are carried out through the development of the Standardization of Planning and

Budgeting for the Construction of Office Buildings for Vertical Institutions of the Ministry of Religious Affairs at the Regency/City Level (Kemenag, 2023). This document serves as pre-design documents that provide initial technical guidelines regarding space requirements, zoning, priority scales, and building comfort parameters. It functions as a unified reference for all regions in designing offices that are appropriate, and functional for optimal public service delivery.

Therefore, improvements are needed for equal distribution of services and work comfortably in the Indonesia's Ministry of Religious Offices in Regency/City. The efforts of Indonesia's Ministry of Religious to improve the performance of public services for all regions in Indonesia that present through the Standardization of Planning and Budgeting for the Construction of Vertical Agency Office Buildings of Indonesia's Ministry of Religious for Regency/City Offices (Kemenag, 2023). Therefore, it is hoped that the Indonesia's Ministry of Religious offices in future will not only for administrative functions, but will also be able to accommodate work activities and public services optimized; physically, psychologically, and socially. Based on the formulation of that, the research question is how are the comfort space for users in the pre-design of the Indonesia's Ministry of Religious offices.

Studies on workspaces and public service within the scope of architecture and spatial studies generally focus on comfort in commercial offices and collaborative workspaces (coworking). Office design research indicates that architectural elements, such as windows that maximize natural light and well-defined work zones, have a significant impact on employees' visual and acoustic comfort (Danielsson and Hoy, 2022). Several studies on coworking spaces emphasize the importance of facilities, services, and layout flexibility (providing user control) in creating a sense of comfort (Norouzi et al., 2015). Cafés and coworking spaces are regarded as spatial and social "comfort zones" that combine domestic and professional atmospheres (Fast and Jansson, 2024). The comfort zone, or the enhancement of coworking users' satisfaction and productivity, is influenced when users can control thermal conditions, lighting, acoustics, privacy, and spatial territoriality (Ergenç et al., 2024). Studies on lecture spaces reveal that physical factors such as temperature, lighting, air quality, and noise, along with non-physical factors such as psychological perception and interior design, affect students' comfort (Lina, 2021).

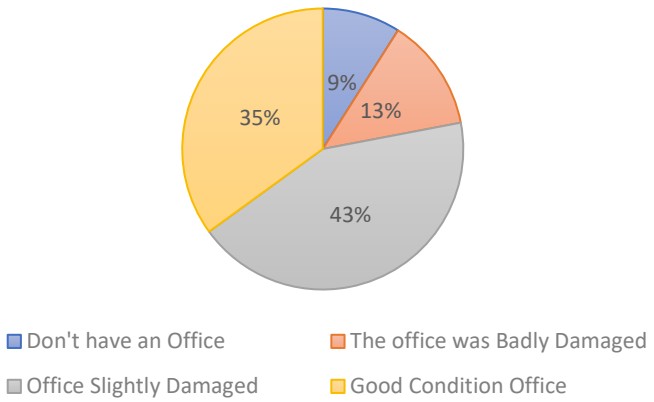

Figure 1. Building condition of Indonesia's Ministry of Religius Office (Source: Kemenag, 2019).

Fundamentally, most literature on workspace comfort focuses on office and educational institution contexts, with primary attention directed toward general aspects such as indoor environmental quality (IEQ) and users' socio-psychological needs (Danielsson and Hoy, 2022). However, research examining comfort from an architectural and spatial studies perspective in public service offices, such as the Indonesia Ministry of Religious Affairs remains limited. The primary focus in these studies is typically on service quality, user satisfaction, and management aspects. Evaluated variables include reliability, responsiveness, assurance, empathy, and tangibles operationally (Pantih, 2019; Susanto and Anggraini, 2019; Syamsinar et al., 2024). Buildings or spaces are only mentioned as one of the tangible indicators, without in-depth analysis of design, ergonomics, or spatial experience. Only a few studies, such as Rizky et al. (2020) show that proper spatial organization can enhance employees' comfort at work.

Therefore, this study aims to identify and analyze the factors influencing spatial comfort in the design of Indonesia's Ministry of Religious Affairs offices. The research focuses on design elements that potentially affect user comfort, such as lighting, air circulation, spatial flexibility and adaptability, building orientation, and visual and physical connectivity with the surrounding environment. This study also seeks to understand how these factors can be optimized to support the well-being, productivity, and overall experience of multi-users, including both employees and visitors.

METHODS

This study employs a descriptive qualitative approach, focusing on document analysis to understand the comfort space in the design of Indonesia's Ministry of Religious Affairs offices at the Regency/City level. A qualitative approach was chosen because the study aims to obtain an in-depth understanding of the design aspects that influence user comfort, such as inclusivity for all users, spatial flexibility and adaptability, natural lighting and air circulation, and connectivity with the outside environment and what challenges need to develope this design.

The data were sourced from the Standardization of Planning and Budgeting for the Construction of Office Buildings for Vertical Institutions of the Ministry of Religious Affairs (Kemenag, 2023) that contains pra-design guidelines, space requirements, zoning, technical guidance, floor plans, and planning reports for Regency/City offices. Additional supporting data were obtained from academic literature related to workspace design, spatial comfort, and multi-user spatial studies in the context of offices and public service facilities.

Analysis was conducted thematically, with the documents coded to identify information related to spatial comfort aspects, including lighting, air circulation, spatial flexibility, building orientation, and connectivity with the environment. The coded data were then grouped into main themes to understand the relationship between the design guidelines outlined in the documents and their potential impact on multi-user comfort. To ensure validity, the study compared information from official Kemenag documents with academic literature and supporting studies on workspace design and user comfort.

RESULT AND DISCUSSION

The Design Planning of of Vertical Agency Office Buildings of Indonesia's Ministry of Religious for Regency/City Offices is intended to be a guideline for the quality standards of public services in the Indonesia's Ministry of Religious offices for the new building in future. This includes the standards for public service spaces in the Integrated One-Stop Service (PTSP) Space, the adaptability of office space to organizational structure, and suitability of building to the climate in Indonesia.

Comfort in public service office spaces within the Ministry of Religious Affairs is identified through the service space, the office's suitability for productivity and staff connectivity, and the design's coherence with Indonesia's climatic conditions. The design of service areas focuses on inclusivity due to the diverse range of visitors being served. Meanwhile, office comfort is identified based on adaptability and flexibility. The building's climatic suitability is assessed through passive design strategies and the connectivity between indoor and outdoor spaces. Therefore, the discussion will be presented sequentially, beginning with inclusivity in service spaces, followed by spatial adaptability based on the new office design, and finally the building's suitability to the climate and its relationship with the outdoor environment.

1) Inclusive Services Space for Multi-Users

Inclusivity in public service buildings is a fundamental aspect that determines the extent to which a facility can provide equal access, services, and experiences for all categories of visitors. Spatial comfort is understood not only from its functional dimension, but also from how the space influences users' experiences throughout the service process. In the context of the One-Stop Integrated Service (PTSP) area, diverse user needs require the application of user-centered sustainable design principles as a primary foundation. The standardization of facilities such as lactation rooms, child-friendly areas, ergonomic design, accessible toilets, and barrier-free routes for persons with disabilities serves as an indicator of a responsive and non-discriminatory space (see Image 2). These facilities and barrier-free routes for circulation reinforce social sustainability while ensuring comfort for all users.

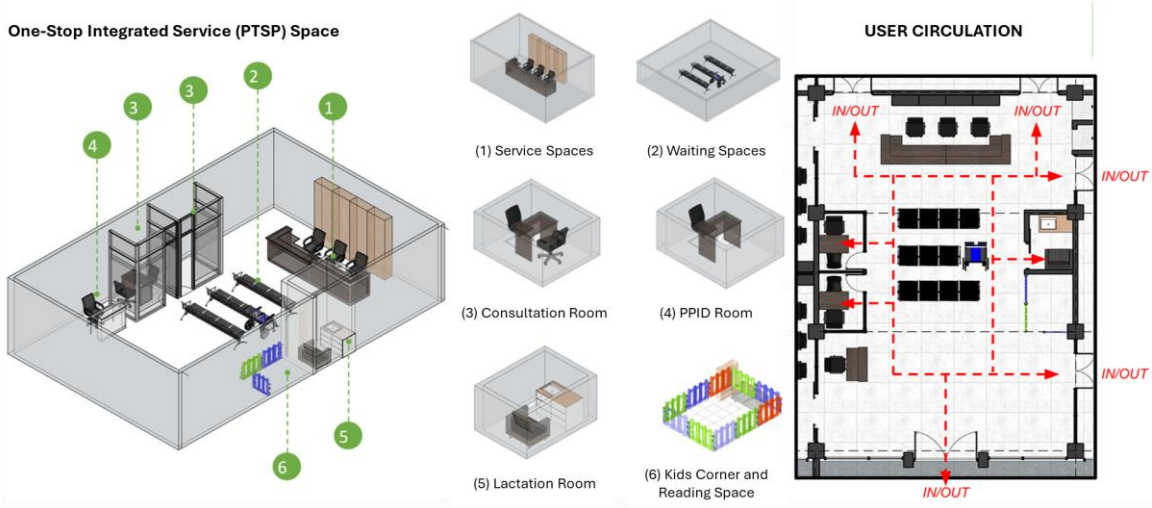

Figure 2. Complete facilities for various users and ease of circulation for comfortable service. (Source: Kemenag, 2023).

However, inclusivity does not end with the provision of physical facilities. Public service spaces such as PTSP must guarantee independence and ease of navigation for all user groups, particularly those with sensory disabilities such as individuals with visual impairments. The provision of tactile graphics, clear wayfinding, and easily understandable information systems represents forms of support that enable users to access services without constantly relying on staff. These elements are not only improving spatial legibility but also fostering a sense of dignity among visually impaired users. Although the role of security and administrative staff remains important in assisting the service process, providing independent navigation tools demonstrates the institution's commitment to deeper the inclusivity values. Therefore, PTSP can function as a public space that is fair, adaptive, and human-centered for all users in accordance with inclusive principles.

The diverse regional and public conditions in Indonesia make each office has unique characteristics, one of the example is in the Indonesia's Ministry of Religious offices of Pangandaran Regency. The Pangandaran Regency Ministry of Religion Office is one of the Ministry of Religion offices of Regency/City that was used as the object of precedent studies during the design planning process. The Ministry of Religious of Pangandaran Regency which does not has an office utilizes the Office of Pusat Layanan Haji dan Umrah

2) Learning from Study Case for Spatial Flexibility and Adaptability

Terpadu (PLHUT) as main office/service office. The Indonesia's Ministry of Religious of Pangandaran Regency utilizes a hall that has a large and flexible space be divided into several workspaces according to the office needs (see image 3). In addition, rearrangement of space that occurred in the Ministry of Religious Office in West Java region has become a dynamic issue for the Indonesia's Ministry of Religious organization. So, dynamic workspace is needed that can be adjusted to office needs. This underlies the design idea of a flexibility plan in a workspace with a modulation workspace. Thus, the workspace can accommodate the needs of staff occupancy in the future.

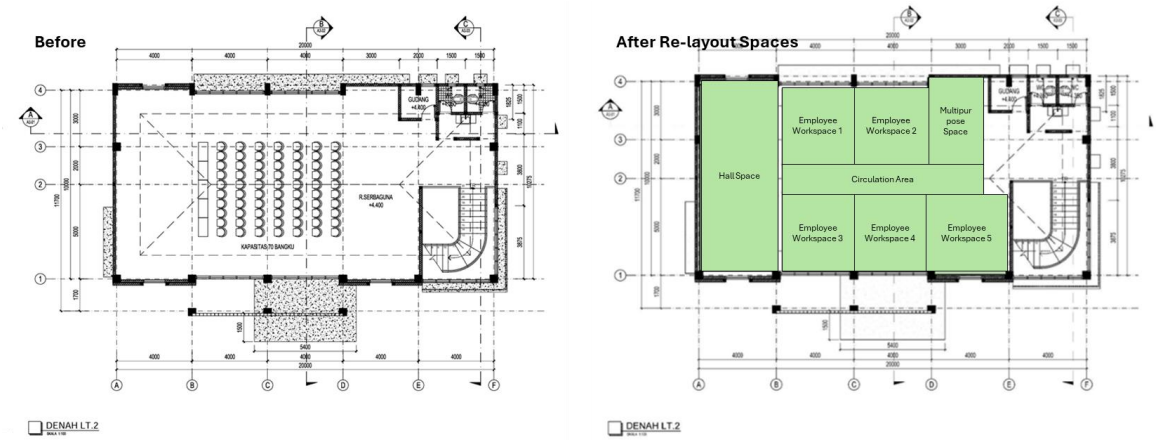

Figure 3. Learning from Precedent Studies about how they adapted the hall into a workspace (Source: Authors, 2025).

The design of workspace with modulation can optimize the performance of space flexibility that can adjust to changes in the employee structure in office, the diverse condition of offices in all of the regions, and various types of services needs. The example case during the Hajj month service, needs to services in the Hajj and Umrah service section will receive a greater load than the previous month. Therefore, it is possible to add honorary employee which will have impact on additional work space. So, the flexibility of space in the office is a sustainable principle for office building case, because the space becomes an integrated system with different organizational structures based on the needs of services needs in and issues each region.

The workspace in the Indonesia's Ministry of Religious offices is designed as a spacious open-plan (see image 5) to be flexible and adaptive workspace with a modular system. The ergonomic workspace module layout (see image 4) uses light steel and glass as space partitions to facilitate the adaptability of the space to accommodate the dynamics of user and office needs.

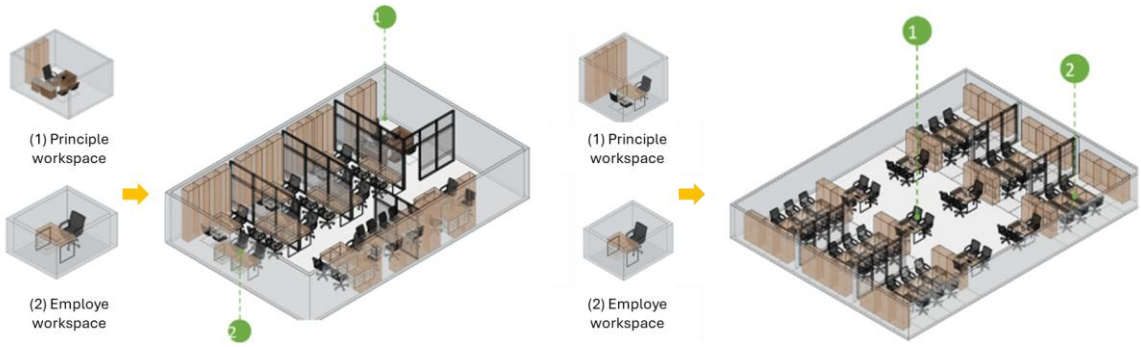

Figure 4. Design module applied to open-plan
(Source: Further developed by the author, 2025).

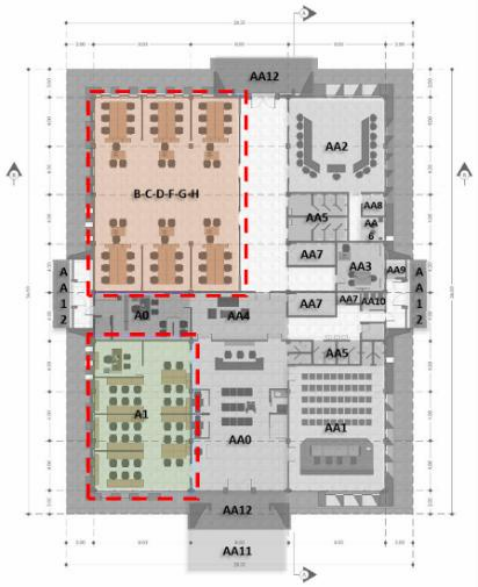

Figure 5. A1 = TU Employee Room and BCDFGH = Section Employee Room
(Source: Further developed by the author, 2025).

3) Suitability of Building with The Climate in Indonesia

Ventilation is an effective passive design solution in creating thermal comfort space in Indonesian climate (Iqbal et al., 2024; Rusmiatmoko et al., 2018). Passive design strategies such as building orientation, cross ventilation, and the use of porous materials (roster) can reduce indoor temperatures compared to conventional buildings. Therefore, the Design of Indonesia's Ministry of Religious offices which has ventilation from windows and porous material or roster (see image 6a) and a cross ventilation scheme (see image 6b) can improve air circulation and indoor thermal performance. In addition, the orientation of the building to the north-south direction can reduce the heat effects of direct sunlight (see image 6c).

The existence of window openings is an important element in creating a healthy quality of service space and work space. Access to natural light can reduce dependence on conventional artificial lighting which has an impact on energy efficiency and also has an impact on the health of space users or human comfort. According to (Edwards and Torcellini, 2002) natural lighting can improve visual comfort and supporting the health of space users. The synergy of roster and windows for natural lighting and ventilation not only supports the principles of energy efficiency, but also reflects friendly service to the guests/the public and supports employee comfort. The use of roster creates better natural air circulation and thermal comfort in the space. Meanwhile, proportionally designed windows allow natural light to enter which supports performance while working and increases visual comfort.

In the context of government office buildings, especially the Indonesia's Ministry of Religious offices for all regions in Indonesia, comfort space is not only seen from functional, but also from how the space impacts the guest service experience and work experience of its occupants. The Integrated One-Stop Service (PTSP) as a public space that accommodates the needs of various guests or users must use the principles of user-based sustainable design. The provision of inclusive amenities including lactation rooms, child-friendly spaces, ergonomic features, and accessible toilets, enhances service quality and demonstrates a commitment to social sustainability. To further this inclusivity, tools such as tactile graphics should be provided for visually impaired visitors. This enables independent navigation of the service flow at PTSP, complementing the available assistance from staff and moving beyond basic assistance to true empowerment.

The existence of green open space as a supporting facility in the Indonesia's Ministry of Religious offices area can contribute in increasing thermal comfort outdoors and indoors. The vegetation and green areas around the building can reduce the temperature and reduce the effects of solar radiation into the building. This has an impact on reducing the heat load entering the workspace (Damayanti, 2020). However, other factors such as the type of pavement material, the density of the built-up area around the site, the type of tree, and the area of the tree canopy play a role in reducing the ambient temperature (Mala et al., 2019). Therefore, in the planning process, it is necessary to pay attention again to the selection of pavement and roof materials that have high albedo values, types of vegetation, and tree canopy area.

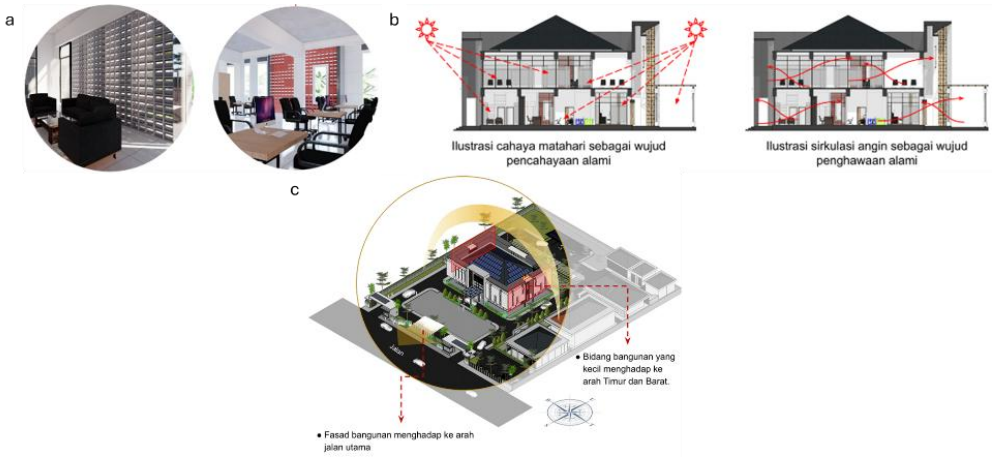

Figure 6. Building suitability to the Climate in Indonesia; (a) Ventilation for natural lighting and air conditioning of the room (b) Passive Design in the Design of the Indonesia's Ministry of Religious offices (c) Recommendation of building orientation
(Source: Further developed by the author, 2025).

Visual connectivity with the outside environment such as access to natural light and views play a role in creating comfort for office space users. Space designs that allow views to the outside not only improve visual comfort but also have a positive impact on user productivity. According to Tekce et al. factors such as natural lighting and visual privacy greatly affect user satisfaction in the office environment. Lack of access to natural lighting and views outside is often the source of complaints, which shows the importance of design that considers visual connections with the surrounding environment while still paying attention to visual privacy within the space.

The extensive window design at the Indonesian Ministry of Religious Affairs office (Image 8) can compromise user security and privacy. While generous glazing promotes visual connectivity to the outdoors and natural light, it requires careful management. Without proper design controls, excessive visual exposure from both inside and out can create discomfort and significantly reduce privacy, which is a dominant factor in occupant satisfaction. Therefore, a balanced window strategy is a recommendation for the design development.

Design Framework for Ministry of Religious Office Building

Design identification of the Ministry of Religious Affairs' planning reveals that spatial comfort in public service offices cannot be separated from three key insights were identified; user characteristics, the diversity of service activities, and the tropical climatic context. First, inclusivity as the foundation of service delivery shows that PTSP (One-Stop Service) spaces must be designed to ensure access, independence, and equitable user experience for all, including vulnerable groups such as individuals with physical and sensory disabilities. The presence of facilities is not sufficient, they must guarantee ease of navigation, give clear information, and environments that are genuinely user-friendly. Second, the case study demonstrates that spatial flexibility and adaptability are office structural needs than design preference. The dynamics of organizational structures, variations in office characteristics across regions, and evolving spatial needs that require

modular spatial systems that can adapt without compromising workplace comfort. This flexibility emerges as a key element of sustainability within government office contexts. This can minimize the need for a complete overhaul due to future leadership and structural changes. Therefore, spatial adaptability becomes a strategic long-term investment that can reduce the disruption of organizational structure changes, costs, and environmental impacts that are caused from construction waste. Third, the building suitability with local climate context show to rely heavily on the effective application of passive design strategies; cross-ventilation, opening proportions, and building orientation influence the quality of service areas and workspaces.

Based on these identification, this study shows three design frameworks for planning the Regency/City Ministry of Religion Office. The design framework focuses on three elements of comfort space; Inclusiveness of Service Space, Spatial Flexibility and Adaptability, and Suitability to Local Climate Context. First, inclusiveness of service Space through accessible facilities for multi-users such as ramp, disabled toilet, lactation rooms, and child-friendly areas. This is also supported by clear wayfinding, tactile guidance, and an inclusive information system that assist the disabled navigate the space independently. The service space design that allow for independent mobility ensure that every individual has an equal opportunity to access services. Consequently, inclusivity improves operational effectiveness as well as user comfort and satisfaction. Second, the spatial flexibility and adaptability are fundamental elements on this design framework, realized through space modulation systems such as light steel frames and glass partitions, which enable rapid re-configuration spaces. The open-plan office concept strengthens the space's capacity to be reorganized in response to changing organizational structures and repositioning internal functions. Thus, the space's ability to respond to fluctuations in workforce volume demonstrates its responsiveness to operational needs. Third, suitability with local climate context through the application of passive design strategies, quality natural lighting, and visual connectivity with the external environment.

CONCLUSION

This study confirm that the design planning of Regency/City Ministry of Religious Affairs Office Buildings must be understood as a new design-oriented framework. Through the analysis of architectural design documents and relevant precedent studies on site, three key dimensions of comfort space were identified that can guide the future development of office service buildings: inclusivity of service for multi-users, spatial flexibility and adaptability, and suitability to local climate.

This study highlights that service inclusivity is not only about providing physical facilities, but ensuring an equitable and independent services for all visitors. Therefore, the design-framework emphasizes accessible circulation, clear wayfinding, tactile guidance, and user-centered information systems as inclusive components for public service design. Spatial flexibility and adaptability emerge as structural necessities in Ministry of Religious Affairs across Indonesia; variations in organizational structures, regional characteristics, and temporal service demands require a modular system that reconfigurable workspace system. The proposed on open-plan that supported by lightweight partitions can offers a feasible strategy to accommodate fluctuating staff capacity and evolving service functions

without extensive future renovations. The last is climatic suitability as a core principle of sustainable office design in Indonesia's tropical environment. Passive strategies such as cross ventilation, optimized building orientation, and natural lighting can contribute for building thermal performance and visual comfort for users and employees. These principles provide a foundation for energy-efficient and health-supportive work environments.

Overall, this research confirm a feasible and adaptable design concept that aligns various user needs, organizational dynamics, and local climatic context. The design-framework offers strategic guidance for enhancing the quality, sustainability, and inclusivity of public service buildings in future development.

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