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Design and Construction of the Al-Qur'an Education Park at the At-Taqwa Mosque, Demak: Improving Religious Education Infrastructure in Kebon Batur Village

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Abstract
This community service project aims to design the Al-Qur'an Education Park (TPQ) at the At-Taqwa Mosque, Kebon Batur Village, Demak, to provide facilities that support religious education for local children. The At-Taqwa Mosque was chosen as the location because it plays an important role in religious development in the area, but currently still has limited facilities to support adequate TPQ activities. Through a participatory approach involving the local community, discussions, field observations, and designs based on educational building standards were carried out. The result of this activity is a safe, functional, and environmentally friendly TPQ design, which is expected to be a guideline for the development of sustainable religious education facilities.

Keywords: *Al-Quran Education Park (TPQ), Educational Building Design, Tropical Architecture, Community Service, Religious Infrastructure*

INTRODUCTION

Background

Kebon Batur Village in Mranggen District, Demak, has the At-Taqwa Mosque which functions as a center for religious activities for local residents. In addition to being a place of worship, this mosque is also used as an educational center for children in learning the Qur'an. The TPQ activities have been running well, but still experience limitations in adequate infrastructure to support optimal teaching and learning activities. To improve the quality of religious education for children, TPQ facilities are needed that are specially designed and in accordance with the needs of the environment.

The problem

Some of the problems faced by At-Taqwa Mosque in providing TPQ facilities include the lack of local residents knowledge about the standards for designing safe, and functional educational buildings. In addition, the existing facilities are not enough to accommodate the increasing number of students (Fig. 1), thus hampering the learning process.

Objective

This community service project aims to produce a TPQ building design that can support religious education activities with facilities that meet standards. This design is expected to provide a comfortable, and safe environment for students to learn, as well as being a reference for the development of supplemental religious education facilities in the area.

Benefit

The benefits of this community service activity can be divided into two, namely:

- **Theoretical Benefits** : Providing knowledge contributions in designing educational facilities that comply with applicable architectural norms, design standard, especially in mosque environments.
- **Practical Benefits** : Provides guidelines for designing TPQ that can be adopted by the local

residents in building sustainable religious education facilities, and improving the quality of religious activities in mosques.

METHODS

This service uses a participatory method with several stages as follows:

1. **Data Collection** : Conducted through field observations, discussions with mosque administrators, and interviews with local residents. This data includes space requirements, TPQ capacity, and facilities needed to support learning activities ;
2. **Design Planning** : Based on the data obtained, the team designed a TPQ that is in accordance with the principles of environmentally friendly tropical architecture. This design considers aspects such as natural lighting, air circulation, and building materials that are resistant to the local climate ;
3. **Implementation of Building Standards** : The design is carried out following educational building standards in Indonesia, including earthquake resistance and energy efficiency to ensure the safety and comfort of users.

RESULTS AND DISCUSSION

Location and Situation

At-Taqwa Mosque located at Jl. Kb. Indah Raya No.23, Karangrawa, Kebonbatur, Kec. Mranggen, Kabupaten Demak, Jawa Tengah 59567 (fig. 2). It has spacious area, and many undeveloped ones. As shown in figure 3-4.

Figure 1. The Students

Figure 2. Satelite Image on Masjid At-Taqwa

Figure 3. Masjid At-Taqwa from Google Maps

Figure 4. Masjid At-Taqwa from Google Maps

TPQ Design

The result of this community service activity is a TPQ design that is designed by considering the main functions, such as prayer rooms, study rooms, and circulation areas. This TPQ building is designed with large windows to maximize natural lighting, and ventilation, which is in line with the concept of tropical architecture. The materials used are environmentally friendly, such as brick and wood, to ensure the safety and comfort of the building. The following is a picture of the TPQ design.

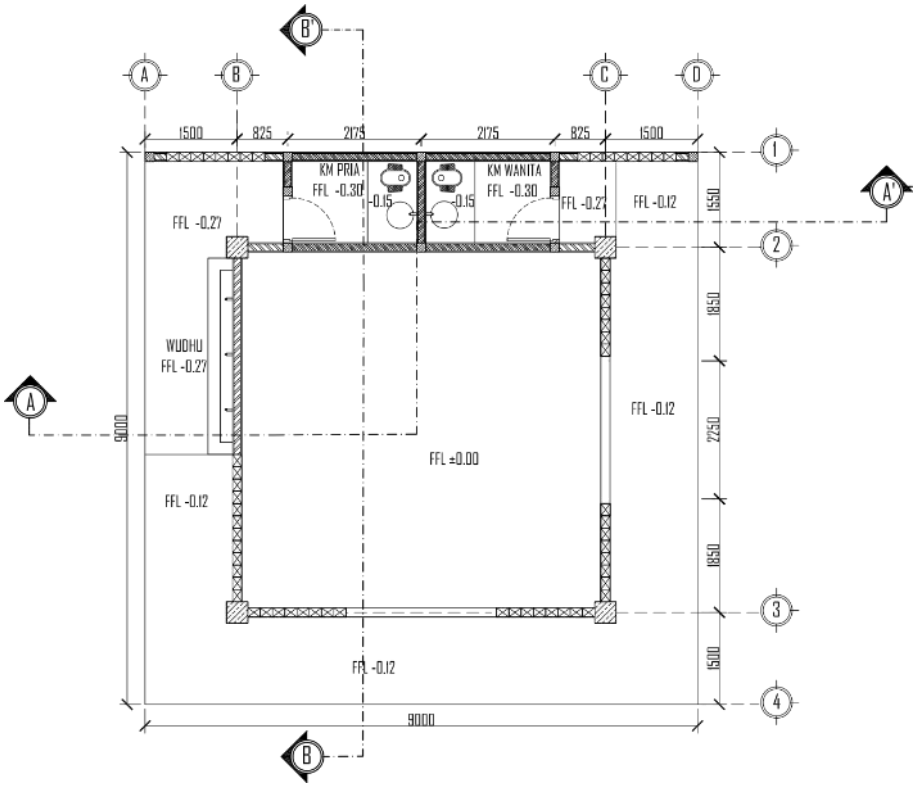

Figure 5. Floor Plan

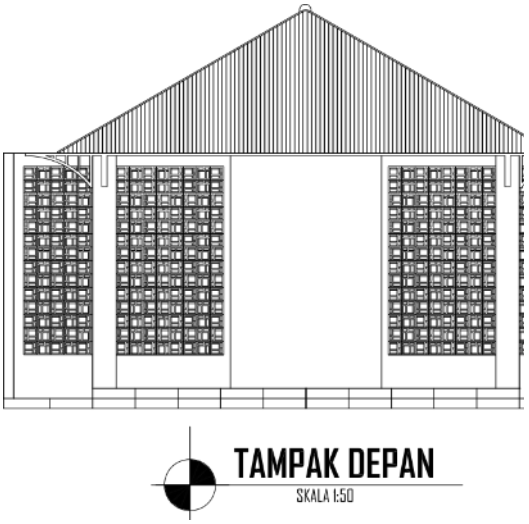

Figure 6. Front look

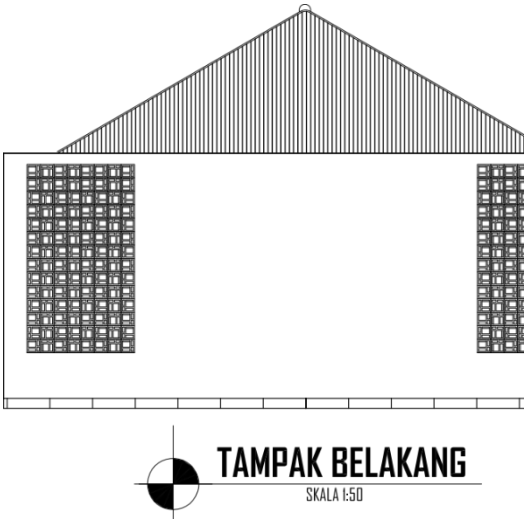

Figure 7. Back view

In addition, there is also a 3D visualization of the TPQ design. The following is a 3D visualization image of the TPQ design

Figure 8. 3D view of the building, front right view

Figure 9. 3D view of the building, front left

Implementation of Building Standards

The building design follows relevant national building regulations, such as SNI earthquake resistance, mechanical and electrical system standards. The TPQ building is designed with capacity and accessibility in mind, and ensures that all parts of the building are easily accessible to all users, including those with special needs.

Benefits for Society

The design of this TPQ is designed to facilitate the teaching and learning activities of the Qur'an with an environment that supports religious education that is fun and safe. This design is expected to help improve the quality of religious education in Kebon Batur Village, as well as provide inspiration for other villages to develop similar facilities.

CONCLUSION

The TPQ design resulting from this community service activity reflects an environmentally friendly approach that is functional and in accordance with the needs of the surrounding community. This building is expected to not only provide a safe and comfortable space for religious learning, but also be an example of the application of sustainable tropical architecture. Thus, this TPQ design can be a guideline in the development of similar religious education facilities in the future.

SUGGESTION

In order for the development of TPQ to provide maximum benefits, here are some suggestions that need to be considered:

1. **Community Involvement** : The community is expected to be actively involved in the construction and maintenance of TPQ facilities, so that they have a sense of ownership of the building.
2. **Routine Maintenance** : Carrying out regular maintenance on structural aspects and mechanical and electrical systems to keep the building in a safe and comfortable condition.
3. **Use of Modern Technology** : Integration of technologies such as energy-efficient lighting and more efficient ventilation is expected to support comfort and energy efficiency in the future.

With attention to these suggestions, it is hoped that the TPQ building can become a sustainable center for religious activities and benefit the community in the long term.

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