

Implementation of Vertical Cleanliness Value in Levelled Building Designs as an Effort to Prevent the Change of Land Function

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Abstract. Vertical Purity In the design of multi-storey buildings in Bali, Indonesia attaches importance to the values of community beliefs where entering the lower floors of the building feels contrary to sacred beliefs. The emergence of the concept of a multi-storey building is hindered by a local genius in Bali, namely vertical purity, when entering the lower part of the multi-storey infrastructure there is a feeling of scorn / lethargy, because someone is on the top floor. The purpose of this study is to reveal the public opinion about the construction of multi-storey buildings related to the conception of vertical sanctity and to provide design alternatives in accordance with Balinese values. To examine these problems, the methodology used is in the form of interviews with Hindu scholars in Bali. The result of this research is vertical sanctity as local wisdom that can be applied to multi-storey building designs. Design alternatives are also needed to minimize differences of opinion and even lead to acceptance of multi-storey building construction.

1 Introduction

Pros and cons still adorn storey building in Bali, this is due to the perception of some people when entering the multistorey building they will feel *cemer / leteh* feeling of scorn. People who are downstairs have a because there are several people upstairs; So that the people downstairs felt like they were being trampled by the people above them. Moreover, because *mesulub* will cause *cemer / leteh*. Strong rejection has occurred since the plan to build flats and construction underpass, the main reason for the emergence of community processions with religious processions. The person who is going to enter *Pratima* the procession must not pass through the *Mesulub* downstairs.

The solution to this problem must be sought immediately because the construction of flats, in several cities, seems to need serious handling. The rapid increase in the number of people who need houses / settlements, so as not to always open new land. The opening of new land for settlement is definitely the main trigger in the occurrence of land conversion.

The emergence of a sense of *leteh / cemer* when *mesulub* downstairs is a result of the conception of the sanctity vertical limit the public is not yet understood. After conducting

interviews with related parties, it turns out that vertical sanctity has its limits as stated in several *lontars* and Hindu scriptures. In line with this conception of vertical sanctity limits, a research was conducted in Badung Regency, Bali which is expected to minimize the pros and cons of vertical sanctity related to the construction of multi-storey buildings. The purpose of this research is to reveal people's opinion about the construction of multi-storey buildings related to the conception of vertical sanctity and to provide design alternatives that are in accordance with the values of Balinese local wisdom.

2 Literature Review

In general, vertical purity is the height of space or distance from the footing with the lowest elevation of a construction on it. When passing through / *mesulub* on the lower floor of a multi-storey building there is doubt or a feeling of scorn / lethargy, so that is where the values of vertical sanctity are considered. The limitation of vertical purity is in accordance with what is stated in some ancient Balinese script called *lontar* as a very sacred library in Bali, namely *Dua Dasa Guli or Dua Belas Guli on the crown (budayoga-a, tt)*, *Lontar Purwaka Weda and (Budayoga-b, tt)*, *Lontar Surya Sewana. Tinglis. K, (tt)*, *Lontar Swamandala* said that the limit of vertical purity is one cubit. With this understanding, it is hoped that it can provide an overview and explanation of the doubts of some people in entering high-rise buildings or other civil engineering infrastructure.

Vertical holiness as high as Twelve Guli as stated in *Lontar Purwaka Weda* and *Lontar Surya Sewana* must be understood more deeply, that even holiness has a limit from the tip of the crown to the top as high as the Twelve Guli. The distance of the Twelve Guli is an area that must be maintained so that its sanctity is not disturbed. One Guli according to *Asta Kosala-Kosali* in the concept of Development in Bali is the distance / length of the two index fingers of humans (Sarawati, 2002), the size of the index finger used is those / residents who are considered the head of the family. The length of the middle segment of the index finger is generally in the range of two to three centimeters, if in this case the average length of one pole is two and a half centimeters, then the twelve guli equals thirty centimeters. Whereas in *Lontar Swamandala* it is written that the distance of holiness is One Hasta. The length of one cubit is the length of the sleeve from elbow to fingertip, the length of the arm of an average adult is Forty Centimeters.

As local wisdom, vertical sanctity is a cultural value that must be preserved because it comes from the religious philosophy of the cosmos that is inspired by Hinduism. The religious philosophy of the cosmos is believed to be able to harmonize the relationship between the soul and the mortal realm through symbols, as a form of the relationship between the macro and micro cosmos. The human body as a whole is described as a micro cosmos as distinguished from the universe as a macro cosmos (Puja, 1978). These two elements are considered as something different, but always exist and influence each other to form one unit (*Rwa Bhineda / dualistic*). Ardana (1982), humans as micro cosmos are also known as *Bhuana Alit* in their activities in macro cosmos or *Bhuana Agung*. These two forms must establish harmony to maintain harmony, a multi-storey building that is built must also make its users feel comfortable, safe, therefore the harmony and harmony between *Bhuana Agung* and *Bhuana Alit* must always be maintained. With the construction of this multi-storey building, it is hoped that it can show a good and harmonious relationship with its users.

For flats in Bali development is very slow, and this is still the independent development horizontal direction so as to make the price of land is high, and the taste *leteh / cemer* when *mesulub* still being felt. Civil infrastructure, one of which is a multi-storey building, is a basic physical requirement for implementing a structural system to ensure that

the economy can function properly (Sullivan & Arthur, 2003). Whereas Civil is meant in this case is a branch of engineering which studies how to design, build, renovate not only buildings and infrastructure, but also includes environmental sustainability.

2.1 Pros and Cons in building levels

Redana and Suparsa (2014) state that the application of technology will be very open to the pros and cons debates that occur. The construction of multi-storey buildings is of course inseparable from the application of technology, therefore this development cannot be separated from pros and cons. The disagreement that occurs will be able to develop into a debate which in the end involves many things, it can even widen and expand because it involves people who are not only the scientific community. Redana and Suparsa (2014) state that public debate can be categorized into three groups that have different views. First, the group that has the idea of proposing new infrastructure development with new technology and sufficiently large capital, usually this group is the government, investors or the private sector. Second, the group as opposed to the group that proposes the idea, usually for reasons related to security, environmental damage due to the application of technology, or other reasons that are often linked to local wisdom. Third, are groups that do not take sides with one or both of them but care so that the pros and cons can be suppressed and development can be continued. Redana (2017) states that conflict resolution efforts caused by pros and cons can be described in five stages, namely: disputes, tension / mobilization, crises, limited violence, and mass violence. Countermeasures must be carried out, if it is not successful then it is necessary to find alternatives, for example choosing other infrastructure or making modifications with approaches and considerations to minimize the pros and cons.

2.2 Design of level building in Bali

The view of Balinese society in general is the direction of the top-down orientation; North South; holy-unholy, guided by mountains and sea. Above, the North and the mountains are definitely holy, luan, main and the direction of the sea, the South, below are considered unclean, thick, and despicable. Everything that is categorized as holy and of sacred value will occupy a location above, North and pointing to the mountain such as: the location of the temple, the direction of prayer, the direction of the head while sleeping, and so on. On the other hand, everything that is categorized as unclean will occupy a location below, south and towards the sea, such as: burial sites, animal pens, garbage / fecal dumps, and so on (Parimin, 1986).

The concept of development in Bali that is based on traditional spatial concepts will require a large area of land. This will have an impact on the opening of new residential land so that if the new land that is opened takes up green open land, the impression is that the development carried out is not environmentally friendly. Moreover, it was later strengthened by the Regional Government of Bali Province (2009) which regulates the Regional Regulation on Spatial Planning by limiting the height of the building to 15 meters or the equivalent of 4 floors / level. This condition further triggers the construction of settlements and roads in a horizontal direction so that land conversion cannot be stopped.

As a result of these developments, Bali and Badung in particular experienced soaring prices for houses and land that people could not afford them. Kamaruzzaman, et al (2018) conducted a study in Malaysia on the focus of local governments to provide housing that is scattered throughout the country so that it is affordable to all levels of society.



Fig 1. Multi-storey building with outside staircase design

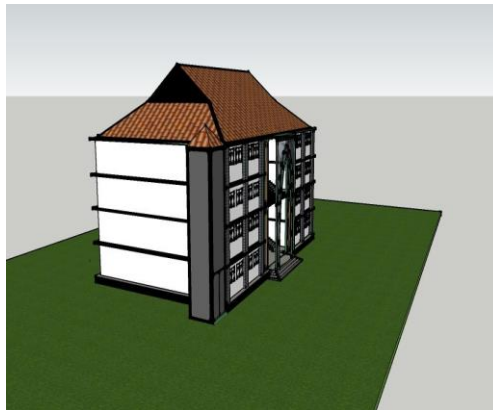


Fig 2. Multi-storey building with elevator design outside

3 Method

This research was conducted in Badung Regency, Bali, with focused observations on the Central Government Building of Badung Regency. It begins with observing and analyzing the problem of people's perceptions of vertical sanctity. Then, questionnaires were distributed to people who often entered the building related to work or other tasks in their daily life. Furthermore, literature studies, theoretical concepts and recommendations from previous studies as discussed above are included in the multilevel *geung* design. Then determine the research variables to be used, followed by compiling the instruments to be used / a list of questions. Through interviews, data were obtained, then analyzed to draw conclusions from the research.

4 Results and Discussion

About one hundred questionnaires were distributed to people who had or frequently entered the Badung PEMP. The distribution of questionnaires for residents of Badung Regency is shown in Figure 3. While the level of education has a significant influence on perceptions, the percentage of respondents' education is presented in Figure 4.

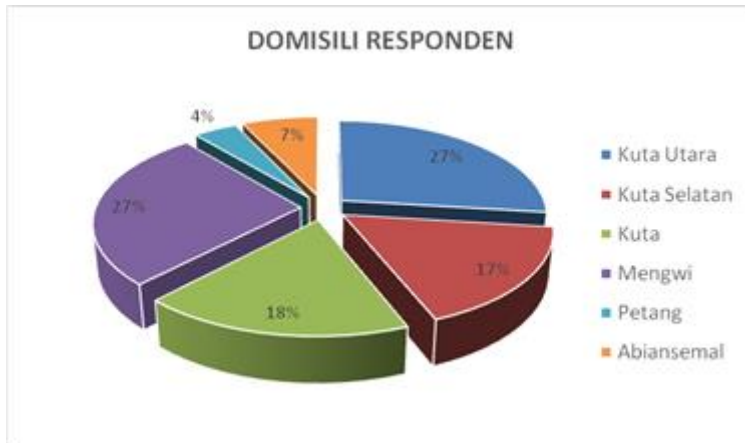


Fig 3. Distribution of questionnaires based on residence



Fig 4. Distribution of questionnaires based on education

Infrastructure development that involves the wider community and touches local wisdom in its design and utilization needs to be studied more deeply. Vertical holiness as local wisdom is generally supported by a culture that is rooted and ingrained in Hinduism. Therefore, every step and action must follow the rules that have become customary in society. Habits that eventually become role models in the implementation of building construction include setting the height and level of the building, the position / layout of the building which is often referred to as elbow or *gegulak* in regulating the distance and dimensions of the buildings used.

Various conditions in the community regarding the understanding of vertical sanctity, so that when collecting data through interviews, assistance is needed and if necessary provides an explanation of the meaning of the statement / question during the interview. Assistance is very important so that there is no mistake in interpreting the meaning of the question which in turn can give wrong information. Carefulness and patience is required in this activity so that the data obtained is pure and accurate.

The application of vertical chastity does have an element of feeling in it, therefore if the feeling of not wanting to enter a multi-storey building is caused by feelings of fatigue, there is no need for coercion. To overcome this, an alternative design was made, so that when entering a multi-storey building there is no need to go through it so that no one walks over.

In Puspem Badung, the height of the first floor with the floor above is around four meters is actually quite sufficient from the existing vertical sanctity limit. Therefore, there should be no feeling of tiredness / scare when you are on the lower floors of a multi-storey building. For the next building design, they should prepare an alternative design in the form of stairs outside the building for those who are still hesitant to enter the building.

If a multi-storey building also functions as a public room or hall, then the location of the hall can be designed to be placed on the top floor (fourth floor). Access to the room is made by an elevator located outside the building, so that those who go up to the fourth floor do not step over it, so there will not be a feeling of fatigue / cemetery.

5 Conclusion

In accordance with the results of the study and analysis and discussion carried out, it can be concluded that the variable public perception of vertical sanctity and the experience of the community entering a multi-storey building has a positive effect on public acceptance of the construction of multi-storey buildings in Badung. This can be seen from the results of interviews with the people of Badung Regency who have or frequently entered the Puspem building. With this positive influence, the answer to the existing problems is that the community accepts the concept of vertical sanctity in the construction of multi-storey buildings. Therefore, the construction of a multi-storey building must consider the value of vertical sanctity in its design.

This research does not consider events and other things that have an impact on the acceptance of the concept of multi-storey building construction, for example one's profession in society as a *pinandita / sulinggih*, special or public building functions, or other problems that can affect the acceptance or rejection of multi-storey buildings . Therefore, further research is expected to consider these variables. This study shows that vertical sanctity has a positive effect on multi-storey buildings, therefore it is suggested that if you want to build a multi-storey building you should include vertical purity values in the design. Of course, it would be better if this could be included in regulations / laws regarding building heights so that there are rules that can be used as guidelines in planning.

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