# Determination Of The Sacred Space Uluwatu Temple With The Gis Approach

#### I Putu Sastra Wibawa, F.X Adji Samekto, I Putu Gelgel

**Abstract**: Bali Provincial Regulation No. 16 of 2009 on Spatial Planning for Bali regulates the radius sacred space of the Uluwatu Temple as far as 5 km. This is contrary to the social and cultural realities of the Pecatu village community. In reality, a radius of 5 km is not possible to be designated as an space that is not built because the people of Pecatu Village have had customary law rules that existed before Bali Provincial Regulation No. 16 of 2009 on Spatial Planning for Bali was established. Indigenous people have the belief that the Uluwatu Temple's sacred space is the Uluwatu Temple forest. There was a conflict between the state law and the customary law of the Pecatu Village community. This research is an empirical legal research using a multidisciplinary approach where the application of law is juxtaposed with the use of a geographical information system (GIS) to determine the reality of the development of the sacred space of the Uluwatu Temple. This research raises two issues, namely the reality of the law governing the sacred space of the Uluwatu Temple by using a geographical information system (GIS). The results showed that not only the state law was in the form ofBali Provincial Regulation No. 16 of 2009 on Spatial Planning for Bali, but there were also customary laws of the Pecatu Village community which regulated the space of the temple of Uluwatu Temple. In reality, based on the results of mapping the built space in the space of the sacred space of Uluwatu Temple, it shows that the rules of the indigenous people of Pecatu Village who have a perception that the sacred space of Uluwatu Temple is the Uluwatu Temple forest is more acceptable because the space has not been built either in the form of residential or tourism accommodation.

Index Terms Keywords: Determination, Sacred space, Uluwatu temple, GIS.

## 1. INTRODUCTION

IN the era of globalization, Bali Island with its uniqueness experienced rapid tourism development. Tourism development turned out to be in addition to contributing in the form of employment and investment, but on the other hand has resulted in high migration to the island of Bali, especially in southern Bali, both from Bali and outside Bali. The development of Bali as a tourism destination cannot be separated from the development of the existence of tourist destinations in Bali. One of the tourist destinations in Bali is the existence of Uluwatu Temple including the surrounding space which has experienced a significant impact on the tourism development side, especially in spatial planning and the space of Uluwatu Temple.

The Provincial Government of Bali made efforts to prevent the problem of space carrying capacity in Bali, namely the enactment of Bali Provincial Regulation No. 16 of 2009 concerning Spatial Planning and the Bali Provincial Space of 2009-2029. One of the interesting things in the Bali Provincial Regulation No. 16 of 2009 concerning the existence of Uluwatu Temple is the spatial arrangement of the Uluwatu Temple which has a radius of the temple space of 5 km calculated from the outer wall of the temple. There are consequences for the existence of the rule of law in the sacred space of the Uluwatu Temple, where the lands owned by the government, the private sector and the community should not be used contrary to these provisions. The use of land affected by the radius of the sacred space may only be used in connection with Hindu religious spiritual facilities only, it is forbidden to use other than what is determined, including prohibited in building settlements and accommodation supporting tourism.

As a result of restrictions on the use of land affected by the radius of the sacred space, the Uluwatu Temple gets resistance from the people who have rights to the land affected by the radius of the sacred space. The resistance actually came from members of the Pecatu village community who felt access to justice for their land was limited. Affected communities demand justice for the state on the pretext that the state must guarantee human rights, especially the right to justice and the economy of their land. Problems occur because the Bali Provincial Regulation No. 16 of 2009 as a law is seen as incompatible with the realities on the ground and local laws in the community. Law as a reality examines the implementation of the law in society, the law becomes one of the sub-systems in a society where the other sub-systems, such as economics, politics, culture, religion, etc. Thus, the law is full of values in a society that are not free from the values of interest in it that can be positive or negative. The law as a text must, of course, see the real conditions around Uluwatu Temple before setting the chastity radius sacred space of Uluwatu Temple. There are several methods to solve these problems, one of which is by utilizing Geographic Information Systems (GIS). GIS through Arc-GIS software can map the state of the space in the sacred space of Uluwatu Temple.

## **2 RESEARCH METHOD**

This study includes empirical legal research, combining legal research with a multidisciplinary approach. A multidisciplinary approach is demonstrated by analyzing the application of primary legal materials. The primary legal material uses the Bali Provincial Regulation No. 16 of 2009 while continuing with secondary legal material analysis analyzes the literature related to the research topic. Data collection uses citation techniques and field data collection using GIS assistance. Novelty research, in addition to using a legal approach, also used an approach using Geographic Information Systems (GIS) using Arc-GIS software to map the condition of the space within a 5 km radius sacred space of Uluwatu Temple. As a consideration, whether or not the Bali Provincial Regulation No. 16 of 2009 can be implemented. The analysis

Departement of Law, Hindu Indonesia University, Awardee Indonesia Endowment Fund for Education

<sup>•</sup> Departement of Law, Diponegoro University

<sup>•</sup> Departement of Law, Hindu Indonesia University

uses a qualitative approach with descriptive analysis. Determining the map of the sacred space of Uluwatu Temple uses a Geographic Information System (GIS), specifically using the Arc-GIS software. The stages of using Arc-GIS in mapping the sacred space of Uluwatu Temple, among others:

- 1. Delineation of the radius of the Uluwatu Temple sacred space.
- Adjustment of the latest Image Map that has been corrected from the Indonesian Geographic Information Agency (BIG).
- Making a radius utilization map of the temple area of Uluwatu Temple, by dividing 5 map categories, namely: 5 km radius map, forest map of Uluwatu Temple, map 0 km -1 km, map 1 km-2.5 km, and map 2.5 km-5 km radius of the Uluwatu Temple sacred space.
- 4. Conducting a land digitization process built on the radius of utilization of the sacred space of Uluwatu Temple.
- 5. Finishing the output map of a radius of 5 km, a forest map of Uluwatu Temple, a map of 0 km -1 km, a map of 1 km-2.5 km, and a map of 2.5 km-5 km radius of the sacred space of Uluwatu Temple.

Geographic Information Systems (GIS) are computer-based tools used to collect, store, manipulate and display spatiallyreferenced information. They are used to support decisionmaking in a wide variety of contexts, including spatial planning and environmental management [1]. The use of Geographical Information System (GIS) has flooded almost every field in the engineering, natural and social sciences, offering accurate, efficient, reproducible methods for collecting, viewing and analyzing spatial data [2]. This is the reason to be able to find out the description of the area of the holy place of Uluwatu Temple. Accurately illustrating the state of forest areas is more highlighted in the use of GIS [3]. In spatial planning literature, there are two dominant approaches on how to plan a region. The first is the functionalist approach, which embraces planning as a technocratic exercise of the state and planners. It stresses the functions or expected functions spatial planning performs. The second is a critical approach which takes into account the social and political reality of planning practices [4]. This research leads to a critical approach to regional planning, where the radius setting of the sacred space of Uluwatu Temple in Bali Provincial Regulation No. 16 of 2009 is not in accordance with the social reality of the surrounding communities around the Uluwatu Temple. In human life, there are many reasons that can be put forward as the cause of a change in society, but a change in the application of modern technology is widely referred to as one of the causes for social change [5]. The use of technology in the form of geographic information systems can show the true reality of the Uluwatu Temple sacred space.

## **3 RESULTS AND ANALYSIS**

## 3.1 The Reality of Legal Arrangement in the Area of the Sacred Place of Uluwatu Temple

Spatial planning of local areas in Indonesia cannot be separated from the guidance of national level spatial planning, though the values of local wisdom are still respected in the spatial planning of local regions [6]. The law governing the area of the sacred space of Uluwatu Temple should also see the reality in the community. Legal consequences in the

context of society, the law is always influenced by various factors, one of which is globalization. Globalization has changed society, including the law, it has undergone a change in tune with the changing global society. The law in managing the life of the nation and state in Indonesia in the era of globalization has a very important role. Problems arise when designing law in a global era that is in line with Indonesia's social values and structure. Critical attitudes are needed and a willingness to be open and holistic in this regard. In accordance with the idea that the law must be considered not separated from the economic, political, social and cultural fields [7] in accordance with the reality in society. Law in the global era must be able to stand in the midst of economic interests and the interests of the authorities in exercising their power [8] and the interests of the community, including arranging the radius of the sacred space of Uluwatu Temple as one of the tourism destinations in Bali. The law should be made as a control in spatial planning activities that pay attention to existing values. The battle between state law (Bali Provincial Regulation No. 16 of 2009) and Pecatu Village customary law cannot be avoided in spatial planning related to the development of the tourism industry in Bali in general and the Uluwatu Temple in particular. This is in line with the opinion who stated that in the era of industrialization, especially concerning spatial planning in Indonesia, it could be ascertained that there was a contestation between state law and customary law [9]. Law in the reality of society is a system that works complementary. Borrowing the opinion of Lawrence Freidman [10] states the law as a system consists of structures as real elements in the law as a permanent body framework in this case related to the structure of the forming and enforcing radius of the sacred space of Uluwatu Temple. The substance is made up of regulations and provisions on how the legal structure-agency must behave in relation to the regulation of the radius of the sacred space by both the government and indigenous peoples. Whereas legal culture is a social force that continuously moves the law which is an element of social attitudes and values related to public awareness in its interactions regarding the radius of the sacred space of Uluwatu Temple. The value of justice for indigenous peoples must continue to be pursued because justice must come from an agreement between the government and the community in spatial planning. This is in accordance with the opinion of John Rawls [11], which states that the principle of justice is the result of fair agreement and bargaining. Because with this position situation, everyone's relationship becomes symmetry, then this initial situation is fair between individuals as moral persons, namely as rational beings with their goals and abilities to recognize a sense of justice. Equality of position between the community as a unit of indigenous peoples and as individuals with the state in determining the radius of the sacred space Uluwatu Temple is necessary to achieve justice. There was resistance from the indigenous people to the Bali Provincial Regulation No. 16 of 2009 in the form of the Bali Provincial Government. Resistance from the community to Bali Provincial Regulation No. 16 of 2009 if observed due to differences in construction thinking about the radius of the sacred space between the radius of the sacred space of Uluwatu Temple which is determined by the Provincial Government of Bali which is 5 km with the perception of the indigenous people supporting the Uluwatu Temple arranged in awig -awig (customary rules) with an space of not more than 1 km which is called a solid base.

The form of resistance to the radius provisions of the Uluwatu Temple's sacred space can be seen, one of them is the juridical resistance of individuals, groups and customary law communities in Pecatu Village by filing 7 times the judicial rights of the law against the Bali Provincial Regulation No. 16 of 2009 to Supreme Court (MA). With the main reason in the petition because of the loss of opportunity to earn income for their families on their land, the economic value of the land has decreased and also because it is not in accordance with the sanctity of the Uluwatu Temple based on the customs they inherited. The birth of a public lawsuit because the community is aware that law as part of the legal system is an instrument to protect their rights to get justice. If the law does not protect their rights, then they should sue the law [12]. However, the result of the claim was rejected through the Supreme Court Decision Number. 30,31,32,33,34,35,36 P / HUM / 2010 and Case Number 65 P / HUM / 2013 with the main reason that the Regional Regulation is not in conflict with the higher law. These differences in perception give rise to discourses between what is believed by the Government through Bali Provincial Regulation No. 16 of 2009 and what is believed by the indigenous people about kekeran forests. Borrowing the Habermas opinion, the discourse requires the removal of action constraints, eliminating all motives other than the desire to reach a rational agreement and suspend claim validity. Consensus generated due to evidence and the strength of the arguments contained in the arguments proposed [13]. In the Pecatu customary village has arranged reality, conservation forest areas in the sacred space of Uluwatu Temple through customary law instruments called awig-awig. In awig-awig, Pecatu customary village, Badung Regency, which was made in 1987, Pawos 27 wilangan (6) (Article 27 number 6) states: All land located in the space of kekeran forest that is purified and sacred to temples, may not be used as plantations and private residences, unless obtaining approval from villagers and those authorized and obliged to make religious ceremonies according to Hindus. In fact, in this area, it is mandatory to allow trees to be planted for forest conservation that can soothe nature. The Kekeran forest which is sacred and believed in its purity and awesomeness by the local community, so that the community does not commit allotment of the space. So it is considered that the rules of customary law provide a sense of justice for the people around Uluwatu Temple compared to Bali Regulation No 16 of 2009. Using GIS, it can be seen the real conditions of the Uluwatu Temple as a sacred space respected by the Pecatu indigenous people can be seen in the map below this:

## PLACE FIGURE 1 HERE

Figure 1. Map of Kekeran Forest (Source: Sastra, 2018)

The map above shows that the Uluwatu Temple forest, which is called the kekeran forest, has a green color, meaning that space has not yet been built. Not yet built in the sense that there are no buildings either in the form of residential areas or tourism accommodations as supporting the Uluwatu Temple as a tourist destination. The forest has a radius of about 350 m, so it is relevant if the rules of customary law are better used as a rule in determining the area of the temple of Uluwatu Temple compared to Bali Provincial Regulation No. 16 of 2009 which regulates the radius of the Uluwatu Temple sacred space which is 5 km as shown below:

#### PLACE FIGURE 2 HERE

Figure 2. Map of Radius 5 Km Sacred Space Uluwatu Temple (Source: Sastra, 2018)

The map shows that there are two colors in the map, namely areen and vellow. The green color indicates space has not been built, while the vellow color indicates space has been built. The existing buildings in the form of either residential areas or tourism accidents around Uluwatu Temple. It is evident that if a 5 km radius is applied then there will be the demolition of residential settlements and tourism accommodation places that existed before the Bali Provincial Regulation No. 16 of 2009 issued by the government. This is what the community calls the rules in Bali Provincial Regulation No. 16 of 2009 does not reflect the sense of justice of the community.

#### 3.2 Use of GIS in Determining of the Sacred Space of Uluwatu Temple

Field reality in knowing the state of the Uluwatu Temple needs to be sought. One method used to find out the reality of the Uluwatu Temple sacred space is to use GIS specifically using Arc-GIS software. This system is used to find out the built area and the area has not been built. As a derivative of the Bali Provincial Regulation No. 16 of 2009, the Bali Provincial Government issued the Bali Provincial Regulation Number 8 of 2015 concerning the Direction of the Bali Province Zoning Regulations as a follow-up to the Supreme Court Decision No 65 / HUM / 2013 which is not as rigid as stipulated in the Regional Regulation Bali Province, in the sense that there is an adjustment of the radius of the sacred area Uluwatu Temple by dividing into 3 (three) zoning and mentioning the corresponding with the local condition of the Temple. Bali Provincial Regulation on Zoning Regulations on Bali Province Article 42 letter h, states that the determination of the outer boundary of the zone of the sanctuary is based on strict physical boundaries in the form of natural boundaries / artificial boundaries, adjusted to the geographical conditions of each region, while respecting the traditional rights of the legal community custom, customary law, and local wisdom, which is further regulated in a detailed plan of local district / city spatial planning. In APZ Bali Regulation, the type of temple is divided into 3 (three) types, namely:

- 1. Type I is an undeveloped and undeveloped area divided by 3 (three) zoning, namely, core 40%, buffer 30%, and utilization of 30%
- 2. Type II is a semi-developed and developing area divided by 3 (three) zoning, namely, core 20%, buffer 30%, and utilization of 50%
- 3. Type III area in the middle of the settlement. Divided by 3 (three) zones, namely core 10%, buffer 20%, and utilization of 70%

Uluwatu Temple is included in type II, where the direction of zoning regulations type II sacred space, as referred to in Article 42 letter e number 2, allowed activities, including:

1. The core zone can be used for: community forests, agricultural areas, green open spaces, religious activities, religious activities supporting buildings, houses of the relevant stakeholders or guardians, existing cultural reserves, and existing community settlements around the temple;

- 2. Buffer zones can be used for: community forests, agricultural areas, green open spaces, dharmasala facilities, pasraman, building public facilities supporting religious activities, local settlements, performances of sacred arts, and supporting facilities for socio-economic activities of local communities on an environmental scale; and
- 3. Utilization zones can be used for community forests, agricultural areas, green open spaces, neighborhood settlements, socio-economic life facilities of local communities on a regional scale.

To find out in detail the description of the area of each zone, by using GIS a description of the condition of the 3 zones of the Uluwatu Temple sacred space, as follows:

#### a. Core Zona

The core zone is calculated from the outer wall of the temple up to as far as 1 km, can be seen in the map below:

PLACE FIGURE 3 HERE

Figure 3. Map of Radius 1 Km Sacred Space Uluwatu Temple(Core Zona) (Source: Sastra, 2018)

In the core zone can be utilized for community forests, agricultural areas, green open spaces, religious activities, religious activities supporting buildings. houses of stakeholders or guardians of the temple concerned, existing cultural heritage, as well as existing community temple settlements. In the core zone can be used for: facilities for supporting spiritual tourism and cultural tourism, performing arts, visitor parking, eating and drinking facilities, and local sanitation facilities. In the core zone, which is 0 km - 1 km from the outer wall of the temple, it can be seen that there is already a yellow color indicating the area there are a settlement and tourism accommodation.

#### b. Buffer Zona

The buffer zone calculated from a radius of 1 km - 2.5 km can be seen in the map below:

PLACE FIGURE 4 HERE

Figure 4. Map of Radius 1 Km- 2.5 Km Sacred Space Uluwatu Temple(Buffer Zona) (Source: Sastra, 2018)

In the buffer zone can be used for community forests, agricultural areas, green open spaces, dharmasala facilities, pasraman, building public facilities to support religious activities, local settlements, performances of sacred arts, and facilities to support the socio-economic activities of local communities on an environmental scale. in the buffer zone can be used for: cultural and natural tourism, tourism support facilities, performing arts that do not reduce the values of temple sanctity, parking places for tourists and tourists, local sanitation facilities, other local settlements, business of providing accommodation, handicraft industry and home industry that does not cause environmental pollution. In this

buffer zone, more and more yellow colors indicate that the area is built for both residential and tourist accommodation.

## c. ZonaUtilization

The utilization zone is an area within a 2.5 km - 5 km radius of the Uluwatu Temple sacred space. Pictures of utilization zone maps can be seen in the map below:

#### PLACE FIGURE 2 HERE

Figure 5. Map of Radius 2.5 Km- 5 Km Sacred Space Uluwatu Temple (utilization Zona) (Source: Sastra, 2018)

In the utilization zone, it can be used for community forests, agricultural areas, green open spaces, community temples and other local settlements, socio-economic life facilities of local communities on a regional scale. In the utilization zone can be used for residential settlements, handicraft businesses and home industries that do not cause environmental pollution, building facilities to support socio-economic activities regional scale services, and business of providing accommodation. Activities that are not permitted, include activities that do not meet conditions that have the potential to reduce the sanctity of the sanctuary area. Activities that have the potential to reduce the sanctity value of the sanctuary area include prostitution, karaoke, dimly lit cafes, rock music, discos, nightclubs, liquor stores, porn dances, and the like. The map of the utilization zone map shows that a radius of 5 km is difficult to enforce as a sanctuary area of Uluwatu Temple because many areas are built both for settlements and for tourism accommodation. Because everything has been built for tourism settlements and accommodations, it is appropriate that the Uluwatu Temple's sanctuary uses customary law in the form of green forests that are still green compared to the radius rules set in Bali Provincial Regulation No. 16 of 2009 and Bali Provincial Regulation No. 8 of 2015. So that in the area of the Uluwatu Temple sacred space in the future more respect for local wisdom and ability to incorporate local wisdom in State legal norms. The integration of local wisdom, religious law, and national law in a legal conception of radius spatial planning of the sacred space of Uluwatu Temple in legal theory is called legal pluralism. Legal pluralism reduces the tension between universalism and localism so that social stability is maintained [14]. Pluralism is a legal concept whose contents are more than one legal principle and substance and see from a situation with different existing social facts [15]. The debate about spatial regulation in Indonesia must be avoided by a centralized state perspective [16]. Law in the global era must be able to stand in the midst of economic interests and the interests of the authorities in exercising their power and the interests of society, including arranging the radius of the sacred space of Uluwatu Temple as one of the tourism destinations in Bali. The way out to be able to bring together the wishes of the State in the form of regional law in safeguarding the sacred space of Uluwatu Temple based on religious law, with the desire of indigenous peoples who have their own rules is to put forward the principle of legal pluralism. Related to this matter in the study of legal pluralism, borrowing the thinking of the Menski triangle [18], which divides 3 (three) points of view namely the state's point of view; community; as well as morality, ethics and religion in the framework of legal pluralism. The state angle, state recognition

of community land rights is based on the term protecting, even though the state has the right to control land in Indonesia. In addition, the state must also be present with the responsibility to respect, fulfill and protect the human rights of the people who have rights to the land affected by the sacred space Uluwatu temple.

## **4 CONCLUSION**

The legal reality shows that there are at least two laws governing the sacred space of Uluwatu Temple, namely the state law represented by the Bali Provincial Regulation No. 16 of 2009 and the Pecatu village customary law. The two types of law are in conflict and have different arrangements in regulating the space of the temple of Uluwatu Temple. Bali Provincial Regulation No. 16 of 2009 regulates a radius of 5 km as a sanctuary for Uluwatu Temple, while the customary law of Pecatu Village believes that the forest is thin as an area of the Uluwatu Temple sanctuary with a radius of not more than 350 m. In reality, the radius set in the Bali Provincial Regulation No. 16 of 2009 cannot be enforced because space has been built in accordance with the map that uses geographic information systems. In the future, it is hoped that the regulation of the sacred space of Uluwatu Temple uses the principle of legal pluralism, where there is an integration between the laws of the country and the customary law of local communities in regulating the sacred space of the Uluwatu Temple.

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