

Forest Conservation with the Basis of Customary Village and Religion Rules in Bali

Ida Bagus Dharmika^{1*}, Gede Yoga Kharisma Pradana² and Ni Made Ruastiti³

¹Universitas Hindu Indonesia, Denpasar, 80238, Bali, Indonesia

²Sekolah Tinggi Pariwisata Bali Internasional, Denpasar, 80239, Bali, Indonesia

³Institut Seni Indonesia Denpasar, Denpasar, 80235, Bali, Indonesia

*¹gusdharmika@gmail.com, ²yoga@stpbi.ac.id, ³nimaderuastiti@gmail.com

Abstract

This paper aims to understand forest conservation based on traditional villages and religious rules in Tenganan Pegringsingan Village, Manggis District, Karangasem Regency, Bali. This study applies a qualitative method. Data obtained by observation, the study of documents, and interviews. Data analysis was performed in a qualitative descriptive way by applying Neo-functional theory. The findings show forest conservation in Tenganan Pegringsingan Village using traditional village rules, and village communities still use traditional and religious rules as a basis for conserving forests. Local people preserve forests based on traditional villages and religious rules until now.

Keywords: forest conservation, humanities, village economies, local wisdom

1. Introduction

The Tenganan Pegringsingan Customary Village is located in Manggis District, Karangasem Regency, Bali. The village is located at a distance of 18 km from Amlapura City and 65 km from Denpasar City. Tenganan Pegringsingan Customary Village includes a customary unit and territorial unit, which includes three customary Banjar that includes Banjar Tenganan Kauh, Banjar Tenganan Tengah, and Banjar Pande. Tenganan Village residents who live together in space are subject to various environmental situations and external disturbances or constraints. The actions of the population may be seen not as a reflection of a situation that is always stable but a reflection of the dynamics and social processes. Ways to deal with risks that are considered to threaten the survival of Tenganan residents include diversification of economic activities, agriculture, trade and handicraft making, and new interpretations of prevailing customary rules.



Figure 1. Map of Karangasem Regency, Bali

Efforts to save the forest environment management look unique through customary village rules (written rules), local knowledge and beliefs, mythology, rituals, and other rational considerations. Since ancient times until now, there has been a tradition of implementing rules and sanctions in the village, including planting trees, cutting, and picking the fruit. Although they have rules for regulating their forests and trees, forest environmental problems also often arise as a result of the development of human needs that is much faster than trying to save the forest. Tenganan Pegriingsingan traditional village rules agree to impose strict sanctions not only on those who violate social and cultural problems but also those who damage the forest environment.

Every Tenganan person knows that this nature consists of five elements, i.e., *pertiwi*, *apah*, *Teja*, *Bayu*, and *akasa* (solids, liquids, heat, air, and ether). The five elements are found in humans. The reciprocal relationship between nature and humanity continues to be maintained, and it has become a guideline for them in their daily lives institutionalized in their customs and habits. Customary village rules have an element of trust that is followed along with values that are considered good. The regulation formulates the rights and obligations of every villager in Tenganan in facing their environment. These rules and instructions have so far been able to regulate the mutual relations between humans and forests for generations and traditions. Tradition is a series of activities that are usually carried out based on rules that contain things that are ritual or meaning, and then understood, developed, guided, and passed down.

This paper is written based on the research findings which aim to understand forest conservation with the basis of customary villages and religion rules in Tenganan Pegriingsingan Village, Manggis District, Karangasem Regency, Bali. This study was conducted due to the imbalance between assumptions and reality that occurred in the field. Supposedly, in this global era, forest preservation is carried out based on laws imposed by the state. It is different from what happened in the Tenganan Village of Pegriingsingan. Although this area has advanced and has even become one of the famous tourist objects in Bali, this area still applies customary village and religion rules as the basic rules in conserving its forests until now. The question: (1) What are the customary village and religious rules that are applied as a basis in forest conservation in Tenganan Village? (2) Why do they conserve forests with the basis of the customary village and religious rules? (3) What are its implications for local communities in this global era?

2. Literature Review

Forests have an essential role in supplying energy from large to small scale and directly or indirectly [1]. Large-scale energy production is facilitated by the critical role played by forests in water conservation. Village Common Forests (VCF) is used for the conservation of water sources, livelihoods and other biomass needs in the hilly areas of Bangladesh in a sustainable way [2]. Products sourced from the environment are an essential component of rural livelihoods [3]. In social protection programs, the average value of food consumed is 13%, and the acquisition of 8% of calories is needed [4]. The future of biodiversity and ecosystem services depends on undermining agricultural production and conservation. However, no planning algorithm has succeeded in expressing small changes in agriculture or significant differences in biodiversity [5]. Most tropical forests outside protected areas have been cut down selectively, so it is necessary to maximize the conservation value of some protected areas [6].

Compared to other forest ecosystems, peat swamp forests are more vulnerable to human disturbance, so their protection and restoration require immediate conservation measures [7]. There is a positive association between unit costs and various local development indices. Measures related to conservation benefits are limited but show opposite global trends, higher in less developed parts of the world. The conservation-to-cost ratio of

conservation is much higher in less developed areas. Therefore, increasing investment in tropical conservation is needed but does not miss cost efficiency [8].

The customary law tradition system has a unique character that is very different from the character of other legal traditions [9]. The formal rules imposed by the state today have not been successfully implemented in the past. Inadequate demarcation of boundaries and lack of conformity between local rules and conditions have been identified as the main reasons. Local people respect more traditional rules because traditional use rights and sanctions at the village level are adjusted to them [10]. Informal developments, concerning access to women's land, occurred in a patrilineal Swazi village in Swaziland with those in a Chewa matrilineal village in Malawi. Swazi and Chewa women also face a system that develops from customary land access, although each community responds creatively to land access rules according to personal and contextual factors [11].

Villages specialize in different economic activities according to the specificity of natural resources: A decrease in intensification intensity is observed from the most preferred location, with more local production and good ecological indicators, to the less preferred location, with an increasing proportion of population wealth. From offshore migration and livestock shipments [12]. In [13] said that the vegetation survey revealed that each local forest class represented a different vegetative community with relatively low similarities between communities. Although commercial logging and agricultural operations are both prohibited in indigenous reserves, local communities are allowed to cut trees for their personal use and to take certain types of non-timber forest products.

3. Methodology

This paper uses a qualitative method with a cultural study approach. Data is collected through the process of observation, a document study, and in-depth interviews. Data analysis was carried out in qualitative descriptive and interpretative ways by applying several theories eclectically, including religious theory and structural-functional theory. Since the data in qualitative research is more likely to be in the form of words, then the interview becomes a remarkable device. Interviews in the research were conducted to construct people, events, organizations, feelings, motivations, demands, caring, and others. For the integrity of the research findings, reconstruction, as experienced in the past, was carried out; i.e., projecting what is expected to be experienced in the future; verifying changing, and expanding the information obtained (triangulation) and verifying it so that the research findings can approach the truth.

4. Results and Discussion

Customary village rules are rules that have been passed down from generation to generation in Tenganan Pegringsingan Village, which was compiled by the ancestors of the community about the 11th century. The ecological influence on the inhabitants of Tenganan Village appears to be the limits given by nature to the behaviour of its inhabitants. Tenganan Village, surrounded by three hills, requires residents to manage the forest in specific ways, using certain tools, applying the customary rules stated in the rules. The rules of the *Tenganan* customary village state that the residents of *Tenganan Pegringsingan* village are every citizen who lives or occupies a spot or plot (village coral) belonging to two customary Banjar; i.e., the *Kauh* customary Banjar and the Central adat *Banjar*. The population is divided into three groups that include: *Krama Desa*, *Krama Gumi Pulangan*, and *Krama Gumi*. *Krama Desa* is every husband and wife of *Tenganan* residents who live in the Central and *Kauh banjars*. They must obey and fulfil the requirements, as stated in the rules.

The village can be stipulated as customary when it has four conditions, i.e., law community unit, shared value, customary governance institutions, and norms of customary law [14]. The farmers adjust to the economic and political dynamics and the changing scarcity and value of different resources in this site, the adat arrangements are constantly renegotiated. Adat customary orders are tied to local notions of identity and associated notions of appropriateness, and as such, constitute patterns of social ordering associated with both implicit deeply held social norms and more explicit rules [15]. With the rules and obedience of the population in implementing it, the forests in the hills surrounding this village can still be conserved.

The rules of the Tenganan Pegringsingan customary village, among others, stipulate that cutting the trees must be permitted by the village. Logging is only allowed for trees that are as minimum as 40 years old. Tree felling permit is given after requesting and checking the type of tree to be felled. Violations of the provisions are subject to multilevel sanctions from the prohibition of entering a neighbour's house in his/her village for one month, fines, and being expelled from the village. The rule also regulates which plants cannot be planted, which trees should not be cut down, what fruit should not be picked directly from the tree but can only be taken after falling on its own to the ground, how to collect crops in the Tenganan village area, how to raise animals and take off animals, what if someone steals fruit picking or cuts down prohibited trees and so on. Hinduism views us as having duties not only to humans, of whatever time and place but also to animals, plants, and elements of the environment, all of which are taken to be God's body and, therefore, to have intrinsic value [16]. All these things are regulated in this rule in articles 3, 8, 10, 14, 26, 38, 54, 55, and 61 as follows.

Article 3

In terms of theft, whoever stole village produce, house items at day or night except for gold, silver, gems, rubies, and diamonds, he/she will be fined IDR 2000 and return what has been stolen twice. Anyone who steals, gold, silver, gems, rubies, and diamonds day or night, he/she will be fined 10,000 and return what has been stolen twice. If he does not pay fines or refund twice, whoever steals in the village is subject to *sikang* (set aside) law by the village according to what has been applied. The theft penalty is according to what has been valid and has the right to be reported. Whoever is in the village whose confession is contradictory, it must be discussed by the *kebayan* (counsellor) as many as six people who are delivered by *saya* (the maid) of the village according to what has been applied. If the *kebayan* disagrees, *saya* of the village must ask for consideration in the Gumi deliberation. The most votes will be followed according to what has been applied. If the decision of the Gumi deliberation swears, then it must be submitted to the *kelihang tempek* (there are two people) to solve it with village *keliang* according to what has been applied.

Article 8

Anyone from the village is forbidden to plant a tuwum tree (*tarum*), make sugar and wine and plant shallots, and garlic. All of that is forbidden; anyone who violates the sentence will be fined money by 400 by the village. If he/she does not pay fines, the land where he/she plants and makes the village will confiscate wine and sugar.

Article 10

Anyone in the village area, which is visited by people, in terms of evacuation, livelihood, and looking for work, if the refugees collect any falling-down fruits in their environment, the refugees are subject to the money of 100 by the village every *sasih Jesta* (eleventh month). If a person who takes refuge obeys village krama in Tenganan Pegringsingan, he/she is forbidden to refuse. If he/she refuses, the villagers have the right to expel him.

When leaves, he/she is prohibited from carrying anything, except what is attached to the body.

Article 14

Anyone in the village maintains woody trees in the area of Tenganan Pagringsingan Village, including in the lands of the Tenganan Pegringsingan moor, the timber trees which are maintained (the meaning) are secluded and used for necessary things including jackfruit trees, *tehep* trees, *tingkih* trees, *pangi* trees, *Cempaka* tree, durian tree, palm tree. Those in the west river in the north of the village are prohibited from cutting down palm trees that are still flowering (fruiting); when it is fruitful, the palm tree may be cut down. Violations of tree felling will be fined by the village. Besides, the trees felled are confiscated by the village according to the rules that have been applied. Anyone in the village who burns his/her place in the village area causing the trees or holy buildings to burn, the burner must replace the burnt or damaged ones to return to normal. Violators of the rules will be fined according to mistakes and must carry out purification following applicable regulations.

Article 26

Village people who receive *salaran* (donations in the form of agricultural produce) go with their respective servants, and they pick *salaran* (in this case coconuts) together. They are obliged to carry it by carrying (wearing *sandangan*), including servants. Whoever does not bring *salaran*, he/she will be dismissed as a member of the village; thus, the implementation is carried out since the past.

Article 38

Implementation of the *salaran* collection (mandatory donation) in the Tenganan Pegringsingan area prohibits picking up bananas, which are the first fruits, coconut stalks within a tree, betel vine, which is more than one handful, bamboo that has stemmed in a family. It must be carried out by using *kisa* (a type of basket from coconut leaves) in which one *kisa* contains 12 seeds (grains) and the second plot of land. It is how the village people pick up the *salaran* according to what had been done before.

Article 54

If the Krama Tenganan Pegringsingan village requires *sajeng* (wine), then a field of land is subjected to one *Kaling* (a porcelain place made from porcelain jars) of wine. If it does not produce the wine, then he/she will be fined 400 in which the fine goes to all villages. Furthermore, if the village krama in Tenganan Pegringsingan holds a worship ceremony, they have the right to take various fruits (yields) on the moor or rice fields in the Tenganan Pegringsingan village area. If they take (search for) 7 coconuts on a piece of land, a bunch of bananas on a piece of land, these fruits must be used in the village in one *kisa* (a type of basket from coconut leaves) which contains 12 items. It also includes jackfruit, a plot of land, and tubers such as taro nine trees, a plot of land, *isen* (plants like turmeric) 9 trees with a plot of land, cassava of one *kisa* (basket) filled with 12 items which are a piece of land. Besides, if there is damage to buildings such as those maintained by villagers in Tenganan Pegringsingan village, villagers have the right to take in fields; for instance, a coconut tree with a plot of land, an areca tree with a plot of land, a palm tree with a plot, a piece of bamboo in a family. If there are people who do not give village people *ngampag*, then he/she should be fined 10,000, and all the fines go to the village.

Article 55

Anyone in the village of Tenganan Pegeringsingan steals or picks fruits that are prohibited by the village; for instance, durian, *tehep*, *pangi*, and *tingkih*, he/she will be

fined as much as 2,000, all the fines go into the village. Moreover, if there are migrants who are looking for work in the village area of Tenganan Pegringsingan stealing, picking fruits or stealing picking up fruit from village bans, for instance: durian fruit, *tehep*, *pangi*, and *tingkih*, he/she will be fined 4,000, all fines go to the village. If the person does not pay a fine, he/she will be expelled and prohibited from living in the village area of Tenganan Pegringsingan.

Article 61

If there is a fallen tree due to the wind in the Tenganan Pegringsingan village area, the wood that is prohibited by the village for example durian, *tingkih*, may be collected by people in Tenganan Pegringsingan However, wood from *tehep* trees, jackfruit, and Cempaka is prohibited from being taken. The wood all goes into the village. If someone violates and works on the wood without checking in the village, he/she will be fined 2,000, and the village will confiscate the wood. This is refined since Friday *Pon*, *Wara Tambir*, *saih 1*, *panglong ping 10*, *rah 7*, *tenggek 4*, *isaka 1847*.

4.1. Factors That Cause the Use of Customary Village and Religion Rules as the Foundation for Forest Conservation in the Customary Village of Tenganan, Karangasem, Bali

Until now the people in the Tenganan Customary Village, Karangasem Bali conserve the forest-based on the customary village and religious rules because the rules and teachings of the religion are considered capable of regulating the harmony of human relations with *tata pawongan* (natural environment), *tata pekraman* (human-human relations), and *tata kahyangan* (human relations with God). The rules of Pegringsingan Tenganan customary village about forest management have a close relationship with various symptoms that involve the behaviour of the people in the village. Besides, there are elements of beliefs, values, norms, local knowledge that are referenced and used by communities in the village of Tenganan Pegringsingan in facing their forest environment. Tenganan Pegringsingan customary village is surrounded by three hills. It is located at an altitude of 70 m above sea level, and the average temperature is around 28°C in the dry season. Thus, an elongated valley has become the residence of Tenganan Pegringsing people. Walls or fences around it surrounded the Pegringsingan Tenganan environment with a gate at the four corners of the wind. The three hills that surround the village are where some plants from plants grow, which are prohibited by villages where strict sanctions govern logging, harvesting the fruit.



Figure 2. The atmosphere of the settlement of the inhabitants of Tenganan customary village, which is still beautiful

The land is planted with rice and also interspersed with secondary crops. With sufficient irrigation from the Puhu River, these fields can produce two crops a year and are planted

with superior types of rice from local rice. Local types of rice are planted to fulfil ceremonial needs, while superior types are planted for consumption or sale purposes. Some things are very typical in Tenganan Pegringsingan that, even though forest land is privately owned but management, full cutting is the authority and permission of the customary village. Figure 2 is an illustration of Tenganan Pegringsingan Village, Karangasem, Bali.

Tenganan villagers who live together are subject to various environmental situations and external disturbances or constraints. Thus, population actions may be seen not as a reflection of an always stable situation, but as a reflection of social dynamics and processes. Ways to deal with risks that are considered to threaten the survival of the residents of Tenganan include diversifying economic activities, agriculture, trade, making crafts, and making new interpretations of the prevailing customary rules. Hindu cultures and beliefs intersect with environmental values, beliefs, and behaviours, with different environmental consequences [17]. According to the community in the customary village of Tenganan, there is also a belief that it is not permissible to cut bamboo trees on Sundays, not to cut timber for buildings if the day contains 'was' (according to the Balinese calendar 'was' comes every six days), should not hurt animals such as cutting off the tail of the *putung* (dragonfly), cutting the tail of the lizard, looking for the birds in the nest. Efforts to conserve the natural environment as well as possible are found in the indigenous village communities of Tenganan Pegringsingan, Manggis Subdistrict, Karangasem, Bali, once known as the Tenganan Republic and this business is contained in the rules. These namely written laws contain rules as behavioural guidelines along with sanctions. The sanctions are explicit.

In the rules of the Tenganan customary village, it is mentioned that it arranges not only the harvesting of tree species but also the picking of the fruit. *Misan*, *Pangi* fruit, durian, *tehep*, and *tingkih* can be taken after falling from the tree itself. The activity of picking up *salaran* (*salaran* is an activity in which the Tenganan Pegringsingan customary village people conduct a customary ceremony in the village to collect compulsory donations in the form of fruits, tubers, cut bamboo in the Tenganan customary village without prior notice to the owner or *penyakap*). However, it is forbidden to pick up or cut the bananas which bear fruit for the first time, two coconut bunches within a tree, betel leaves, which are more than one handful, and two bamboo stem in a cognate). In terms of raising livestock, both Tenganan and migrants who are looking for work in the Tenganan village area are prohibited from releasing animals such as pigs, buffaloes, cows, goats, horses, and sheep in fields or rice fields within the Tenganan Pegringsingan customary village area. Besides, there is a prohibition to carry out several activities such as making sugar and making wine, planting shallots, garlic, and tilapia (*taum*). This activity is very carefully related to the conservation of the natural environment. Making sugar and wine will require much firewood while logging in a village surrounded by three hills will significantly harm the settlements and lives of the people themselves. Hindus assume that a consistent environmental ethic must link moral positions directly to individual entities, living, and not human beings, such as animals and plants [18].

The traditional concept of Hinduism is instrumental in developing ecological views in the development of authentic environmental conscience [19]. Violations of the rules above are subject to sanctions following those stated in the rules. These sanctions can be in the form of (1) *Dedosen* is fines and carrying out tasks ordered by the village, such as searching for fibres or collecting stones for the village. Besides, the offender must apologize at Bale Agung during the meeting *ngelebang saya* (regular meetings every night); (2) *Sikang* is that the offender is prohibited from entering neighbouring houses, into village temples, and is prohibited from going up to Bale Agung; (3) *Penging* is that offenders are not permitted to enter neighbouring houses, it is also strictly forbidden to walk in front of village temples in Bale Agung; (4) *Sapasumaba* is that the offender must not be addressed or may not be invited to speak. If he/she asks someone else, it can only be answered once. Someone who answers more than once can be sanctioned with dedication; (5) *Kesah* is that the offender

is excluded from the membership of the customary village and is expelled from the village area. The existence of obedience of the population to enforce the rules consequently makes the village "native Balinese," as they are usually called, succeed in maintaining the conservation of their environment.

4.2. Implications of the Application of Customary Village and Religious Rules in Forest Conservation in Tenganan Pegriingsingan Village of Karangasem, Bali

Until now, the people in the Customary Village of Tenganan Pegriingsingan still use the rules and religion as the basis for conserving their forests because it has implications for the preservation of nature, economy, tourism, and culture of the local community. Communities in the Customary Village of Tenganan Pegriingsingan, Karangasem Bali conserve the forest according to rules and religion because it is considered to have positive implications for the harmony of human relations with the natural environment (*tata pawongan*), rules are also considered to regulate human and human relations (*tata pakraman*) and human relations with God (*tata kahyangan*). The influence of cultural contact causes the process of regulatory change as a result of the entry of the tourism and education industry. Population awareness Tenganan Village of the quality of plants owned in their gardens has caused residents to try to improve crop yields by planting new plants such as salak, oranges, and rambutan. This leads to a new interpretation of the *salaran* collection activities contained in article 38. shows that they also dare to take high enough risks to carry out renewal if the old principles they adhere to previously have been unable to provide satisfactory results to meet their household needs. It also shows that the Tenganan Pegriingsingan people carry out adaptive actions to maintain their lives. This adaptive response is interpreted as a form of interplay between humans and ecological conditions. Ecological conditions affect humans, and human activities affect ecological conditions [20]. The ecological influence on the inhabitants of Tenganan Village appears to be the limits given by nature to the behaviour of its inhabitants. The village of Tenganan, surrounded by three hills, requires residents to manage the forest in certain ways, use specific tools, and apply the customary rules stated in the rules. On the other hand, from one generation to another generation, the population overcomes ecological obstacles by taking specific actions that vary so much that obstacles can be neutralized and can even be used to support life. Higher levels of vegetation density and significantly more forest rules exist in areas not legally protected. Scarcity of regulations in protected areas shows optimal governance structures to promote local conservation [21].

5. Conclusion

Based on the above description, it can be concluded, among others: (1) the application of the rules of Pegriingsingan Tenganan customary village is active in conserving forests and processing forest resources following community agreements in the village. The socio-cultural system is an abstraction set of their experiences in facing current challenges. The socio-cultural capital they have is in the form of local wisdom whose meaning is profound and can be accepted and carried out in principle, and continuous manner from generation to generation.; (2) The conservation of the forest environment in the customary village of Tenganan Pegriingsingan can be maintained until now because of the socio-cultural potential it has; i.e., the existence of a kind of mechanism in the culture of the Tenganan customary village community to limit the occurrence of excessive exploitation of nature. The rules of the Tenganan Pegriingsingan customary village with strict and real sanctions turned out to have been able to regulate human relations and the sustainable use of natural resources. In addition to regulating human relations with nature (*tata pawongan*), the rules also regulate human relations with humans (*tata pekraman*) and human relations with God (*tata kahyangan*).; (3) Communities in Tenganan Pegriingsingan Village until now still use customary village and religion rules as the basis for conserving its forests because it has

implications for the conservation of nature, tourism economy benefit, and the cultural sustainability of the local community.

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