The Urgency Of Awig-Awig Customary Villages In Bali Regarding Subak Regulations In Saving Land Conversion And Local Wisdom Of Balinese

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Abstract. Awig-awig is a customary system that serves as a guideline for the lives of traditional village communities in Bali. The guidelines are also included in the management of subak, a traditional irrigation system that is very important for rice farming activities. With the increasing pressure of land conversion for development and urbanization, the role of awig-awig is becoming increasingly important in ensuring the sustainability of the agricultural system and the preservation of local culture. This study examines the implementation of traditional village awig-awig effectively to protect subak from land conversion. In addition, this policy can also help preserve local wisdom which is a very valuable cultural heritage. Strengthening and empowering traditional village awig-awig can be an effective solution to overcome land conversion and protect local wisdom from the negative impacts of globalization.

Keywords: Subak , Customs and Existence , Local Wisdom, Globalization

1 Introduction

The State of Republic Indonesia is one of the big countries with abundant natural resources. The management of abundant natural resources as stated in Constitution of Republic Indonesia article 33 paragraph 3 which states that "The land and water and the natural resources contained therein are controlled by the State and used for the greatest prosperity of the people". Here it is clearly implied that land as one of the elements of the wealth of this nation, and it also includes agricultural land, needs to receive attention from the state. In this case, Bali is one of the regions in Indonesia that has a large rice field area with an irrigation system that has existed since the ancestors. The traditional Balinese irrigation system is called subak [1]

Subak is a traditional irrigation system that has long been an inseparable part of Balinese life. This system not only plays an important role in managing air resources for agriculture, but also acts as a link between local wisdom and spiritual beliefs of the Balinese people. Subak system is known as a cultural heritage inherited from the farming community in Bali. There are no farmers in Bali who are not tied to the Subak organization. Subak has even received international recognition as one of the world's heritages. This condition encourages the tourism sector in Bali to utilize the assets of religious and cultural traditions inherited from Subak as one of the attractions of tourist attractions[2].

ICLSSE 2024, October 17, Singaraja, Indonesia

DOI 10.4108/eai.17-10-2024.2353696

Subak is not just an irrigation technique, but reflects a harmonious way of life between God, humans, and nature. In Regional Regulation Number 9 of 2012 concerning Subak, it is stated that Subak is a traditional organization in the field of air utilization and plant management at the level of farming in the customs of the people in Bali [1].

However, behind the richness of culture, subak system in Bali in recent years has faced many challenges that have the potential to endanger its existence. Many subak rice fields have been converted into land for housing, tourism, or other commercial projects. As a result, over time the existence of subak continues to decline. This is also exacerbated by massive infrastructure development and environmental pollution. This phenomenon has indirectly hampered the flow of water from the subak system. On the other hand, as an impact of contact with globalization, young Balinese people rarely intend to become farmers. As a result, the profession of farmer is less glanced at young Balinese people tend to want other professions that are more profitable. The decline in interest of the younger generation to become farmers also has an impact on the decline in the existence of subak in Bali [3]

Climate change such as erratic weather patterns also worsen this condition. Planting and harvesting cycles are disrupted, potentially causing crop failure. As a result, agricultural productivity declines, farmers' incomes decline, and the tradition of mutual cooperation in managing subak begins to fade. All of these things threaten the sustainability of subak as a sustainable agricultural system and an important cultural heritage for Bali

The problems of Subak in Bali reflect the complexity of the development problems faced by the island. Economically, the pressure to increase income often drives farmers to switch to more profitable commodities, but on the other hand, are not sustainable for local ecosystems such as Subak. The rapidly growing tourism industry in Bali is not only economically profitable, but also increases the demand for land for accommodation and tourism facilities. As a result, rice fields are currently on the verge of destruction. The uncontrolled urbanization process has caused the conversion of rice fields into residential areas. As a result, the amount of water available for irrigation is decreasing because it has to be shared with hotels and other tourism facilities. The result is damage to the conventional irrigation system [4]

From a legal perspective, the existence of unclear regulations and weak law enforcement often causes land conversion to occur easily. In addition, efforts to preserve subak are becoming increasingly difficult due to the complexity of regulations related to water resource management and spatial planning. These factors are interrelated and form a counterproductive relationship. As a result, efforts to preserve subak in Bali are becoming increasingly difficult.

The history of subak cannot be separated from the discovery of ancient agricultural tools in Sembiran Village. This village is one of the oldest villages in Bali. The ancient agricultural tools found were used to plant rice. The practice of farming in Balinese society in writing can be seen in Sukawana Inscription in 882 AD. In the inscription, the term “huma” was found, which means management of rice field irrigation. Another source about farming practices was found in Trunyan Inscription in 891 AD. In the inscription, the word "serdanu" is mentioned, which means head of lake water affairs. Bebetin Inscription in 896 AD found in Buleleng and Batuan Inscription in 1022 AD mention the term "rakit undangan" which means an expert in making water tunnels. In the Pandak Badung Inscription in 1071 AD and Klungkung Inscription

in 1072 AD, the word “suwak” was found, which comes from two words, “su” which means good and “wak” for irrigation. Thus, suwak can be interpreted as a good irrigation system [5]

For thousands of years, Subak has been the foundation or basis of agriculture in Bali. Subak is based on the principle of mutual cooperation and harmony with the environment. Subak is not only an irrigation technique but also the core of the social and cultural structure of the Balinese people. According to the Regional Regulation of the Province of Bali Number : 2/DPRD/1972 concerning Regional Irrigation, it is stated that subak is a customary law of a social agrarian religious society that has historically existed since ancient times and has continued to develop as an organization of land owners in managing rice field water and other land from a source in a region.

The development of subak over time has significantly begun to decline. There are various challenges that influence the decline in the existence of subak in Bali. Especially in the midst of the increasingly rapid flow of globalization. Infrastructure development tends to utilize land owned by local farmers that is still productive, tends to create a reduction in the amount of land, so that it can fade the tradition of subak that has existed for thousands of years. If this land conversion is allowed to continue, slowly subak will only be a name and a silent artifact that tells the glory of Bali in the past. The phenomenon of shrinking subak land due to land conversion can be witnessed in several areas in Bali, especially South Bali which is the center of Bali tourism such as Badung, Gianyar and Denpasar.

Infrastructure development such as roads, industrial areas, and settlements have a significant impact on the shrinking of agricultural land, especially in Bali. The land conversion process is exacerbated by high taxes that burden rice field farmers, reducing competitiveness. High living costs and low incomes cause many farmers to prefer selling their land to companies that need land rather than working their own rice fields. The impact of these changes also damages the balance of the Tri Hita Karana aspects which include the relationship between humans and God (*parahyangan*), the relationship between humans and humans (*pawongan*), and the relationship between humans and nature (*palemahan*) [6]

Disruptions in these relationships can result in shifts, or worse, damage to Balinese culture in the future. Industrial development areas often initiate the emergence of slums which also cause environmental and social problems around the area. Thus, although infrastructure development is necessary for progress in all global aspects, it is also important to consider its impact on the local environment and culture. [7]

The various problems that arise regarding Subak really need attention from the government. Moreover, with the increasing number of humans and the development of increasingly massive globalization, it has an impact on the existence of the subak system which is increasingly shrinking. Subak is becoming less popular, then abandoned because it is considered old-fashioned and less useful for life.

2 Methods

This study will use the normative legal method. [8] The use of this method serves to see the absence of normative law in most of the traditional villages in Bali. Subak as a traditional irrigation system and local wisdom of the Balinese people is a hereditary culture from their

ancestors. However, recently it has begun to change function uncontrollably. Therefore, it is necessary to regulate it firmly in customary law or village *awig-awig* in Bali which is related to the prohibition of land conversion. The goal is to maintain and preserve the ancestral heritage and traditional irrigation system of the Balinese people in the future. From this problem, the question arises, what is the role of traditional villages in Bali related to the existence of subak and how to save subak from land conversion and maintain local wisdom Bali.

3 Result and Discussion

3.1 History and Philosophy of Subak

The irrigation system in Bali is a process that cannot be separated from the long history of Java. A number of historical evidences, such as inscriptions and archaeological remains, show the significant influence of Java on the development of civilization in Bali. In Java, especially in the areas of the former East Java Kingdom, agriculture, fields and plantations have long been the main source of livelihood for the community [9]

Therefore, the irrigation system developed as something important in their lives, ensuring the availability of air for agriculture on large areas. This system then spread to Bali along with the migration of people from Java, either because they were driven to find new areas, political pressure or natural disasters. These Javanese migrants who went to Bali brought their culture, traditions and technology with them. The migration of people from Java to Bali in the past not only resulted in demographic changes, but also caused the spread of various aspects of culture, one of which was the subak irrigation system. Farmers who moved to Bali brought with them their skills and knowledge about air management that they had long applied in Java. As a result, the subak system that we know in Bali today has a close resemblance to the irrigation system in Java. Although with local adaptations that are adjusted to the natural conditions and society in Bali. The implementation of the subak system in Bali is considered one of the best examples of traditional water management that is still sustainable today [10]

This system is not only successful from a technical aspect, but also from an institutional aspect that supports its wishes. One of the keys to the success of the subak system in Bali is its excellent institution, where each farmer has a clear role and responsibility in overseeing the smooth distribution of air. A regular planting schedule and strict air distribution show how disciplined and neat the management of subak is in Bali. Most farmers start the planting process at almost the same time simultaneously. This creates its own beauty in terms of air management [11]. To ensure that this system runs smoothly, there are strict rules for anyone who violates it, such as farmers who ask for too much air or waste air. Those who violate will be sanctioned by the authorized subak officials.

According to official records, the subak system in Bali first appeared in 11^{th} century AD. However, when viewed from various historical sources, subak has existed long before that. Even since 678 AD, this late historical writing was caused by changes in the political system in Bali, including the role of Balinese kings who influenced and changed the subak system throughout history. Therefore, although the subak system was officially recognized as existing only in 1071 AD, the existence and implementation of this system has been going on for much longer than recorded.

Subak system in Bali not only functions as a technical irrigation mechanism, but also contains very deep values, both in terms of culture, social, and religion. As one of Bali's great cultural heritages, subak reflects the life of a community full of mutual cooperation and harmony. The cultural valuesin subak are closely related to Balinese culture which emphasizes togetherness in society. The harmonious life of the Balinese community is reflected in how they help each other in water and agricultural management, which is the core of the subak system. [12]

From a social perspective, subak also carries the values of justice and shared prosperity. This system is designed so that water, which is a vital resource, can be distributed fairly among all farmers, without excessive profit. This principle of justice is the basis for subak management, where the main goal is to ensure shared prosperity without any conflict or dispute. Subak management is regulated by authorized officials, who ensure that each farmer receives a water quota that suits his/her needs.

In addition, religious values are also very strong in the subak system. The Balinese view deep water as a gift from God, so its use must be done with gratitude and respect. Religious traditions and traditional ceremonies that are often involved in subak management show how closely this irrigation system is related to the spiritual beliefs of the Balinese people. Through these ceremonies, farmers express their gratitude for the abundance of water in their rice fields, and ask for blessings for an abundant harvest. [13]

3.2 The Role of Traditional Villages and Customary Law in transfer Subak Land Function

Traditional Village according to Article 1 Number 8 of Bali Provincial Regulation Number 4 of 2019 concerning Traditional Villages in Bali (hereinafter referred to as called with Bali Regional Regulation 4 of 2019) is unity public law customs in Bali. With various problems that exist in the system subak this traditional village also has significant role because own very close relationship. Pakraman village in Bali often face to face direct with problem subak in Bali. Village term customs start used since issuance Bali Provincial Regulation Number 3 of 2001 concerning Pakraman Village. Previously, the term used is village custom in accordance Regional Regulation 6 of 1986 concerning Position, Function and Role of Traditional Villages as Unity of Customary Law Communities in Bali Province [13].

Bali Province Regional Regulation Number 3 of 2001 concerning Pakraman Villages as amended become Bali Provincial Regional Regulation Number 3 of 2003 with clear define village customs is unity public law customs in Bali Province which have One unity traditions and social etiquette life public Hindus in general down hereditary in bond heaven three or heaven villages that have a certain territory and property riches Alone as well as entitled look after house the stairs themselves [13]. Customs and habits Hindu society in Bali was fostered and led by a an institution named village customs. One of element important in village custom is regulation an ordinary village called with custom and regulations load rules the basis concerning customary areas, village people customs, religion as well as sanctions.

Customs and regulations village custom, is law customs that have function for manage and control behavior inhabitant public in socializing his life use reach order and tranquility

society. The importance of custom is is binder unity and integrity of the village community use ensure unity and integrity in unite objective together realize a safe, orderly and prosperous life in the village area customs. When associated with problem transfer function medium land rampant occurs in its execution custom village custom in fact not yet load about regulation transfer function land agriculture.[14]

3.3 Challenge Subak in the Globalization Era

Subak face various challenges, especially in facing the globalization era, which if no overcome, can threaten sustainability system this. Some challenge among them is as following ; First, competition strict in marketing product. Indonesian agriculture will entering a period where the agricultural market must open to products from abroad. Agricultural sector no can avoid from investment foreign and must capable compete in the global market without support subsidy government. Even moment this, supermarkets in cities big, including Denpasar, starting flooded product agriculture foreign like fruits, vegetables, and meat, which can be replace product farmer local.

For compete in the global market, quality product Indonesian agriculture must improved. This also requires improvement capacity farmers to be more professional, efficient, and capable master and utilize modern technology. Until now, farmers member subak still work individually. In fact, some big from they classified as farmer with land small, limited capital, and position weak bargaining. They have not utilise subak as organization together for develop agribusiness. In facing increasingly fierce competition tight, it should be farmer united through subak for activity agribusiness, not only as receptacle management irrigation. [15]

Second, shrinking irrigated rice fields effects of change of function. Other challenges faced subak is shrinking irrigated rice fields consequence transfer function land for non agricultural activities. In Bali, in a number of year lastly, around 1,000 hectares of rice fields were converted function every year. Depreciation this more fast around area city because price land that continues increasing, tempting farmers for sell land they. Farmers more choose for sell land and save money in the bank instead of to strive land alone, because results obtained from flower savings more big compared to results agriculture. If the depreciation land. This keep going continue, subak can threatened extinction, and disappearance subak will impact on Balinese culture which relies on institutions social traditional like banjar and village custom. Therefore that, farmer subak must involved in taking decision related transfer function land. [16]

Third, increasing water availability limited along with improvement population and development. The need for water in Bali continues to increase increased . Water becomes source increasing power rare, trigger potential conflict between sector agriculture and non-agriculture. Good water management is essential, especially by members subak, for ensure efficient use in the middle scarcity source this water power. [17]

Fourth, damage environment and pollution water resources in some area. Farmer complain about water pollution due to waste industry, hotels, and housing. The decline this water quality estimated will increase along with increase amount waste industry waste poisonous through rivers and channels irrigation. Subak must play a role active in effort guard

sustainability environment, especially in management source water power.

Fifth, submission management responsibilities irrigation to farmers due to limitations source power government in management network irrigation. Responsibility answer This handed over to farmer through organization subak or P3A. For land under 500 hectares, management handed over fully to farmer through the Submission program Small Irrigation (PIK). Therefore that, subak must capable increase welfare its members with develop activity economy oriented agribusiness. [18]

Fift, declining youth interest in work as farmer. Rice farming does not Again considered interesting for youth compared with sector industry or tourism, which offers income more high and more work prestigious. Many village youths leave hometown they For look for jobs in the city. If the trend This continued , generation the remaining farmers will the more old and less productive, which can impact negative on continuity life Subak need create interesting condition for race young For return working in the sector agriculture as modern and professional farmers [19].

3.4 Face Challenge Preservation Balinese Subak

To face the challenges in marketing agricultural products in the era of globalization, the subak community in Bali must take strategic steps that focus on increasing the competitiveness of their products. One of the main steps is to improve the quality of agricultural products through the use of modern agricultural technology such as precision irrigation systems, environmentally friendly organic fertilization, and superior seeds that are adaptive to climate change [10]. In addition, farmers need to adopt sustainable agricultural practices that not only increase productivity but also maintain environmental sustainability.

In order to be able to compete in the international market, subak farmers must meet global quality standards, especially those related to food security, so that their agricultural products can be accepted in the increasingly competitive global market [20] . The government together with related agencies can also help by providing training to farmers to improve their agribusiness management skills and digital technology, so that they are able to market their products more widely through e-commerce platforms. In addition, to strengthen the bargaining position of subak farmers, collective cooperation is needed in managing agribusiness.

Currently, subak member farmers tend to act alone with limited agricultural land and small capital. In order to compete with imported products, subak farmers must unite through existing subak institutions and use them as a forum to manage agricultural businesses together. Subak institutions can play a role in various aspects, from collectively purchasing seeds and fertilizers to integrated distribution and marketing of production results. [21]

Thus, subak can transform itself from merely an irrigation management institution into an agribusiness-based economic institution that is oriented towards the community. In addition, subak can also form farmer cooperatives that can provide easier access to capital, marketing, and counseling on modern agricultural techniques. This step will help farmers increase production efficiency, expand market access, and strengthen their bargaining position in the increasingly tight global economic competition.

Another major challenge faced by Subak is the conversion of rice fields to non-

agricultural land. This land shrinkage is more pronounced in Bali, especially in urban areas and tourism areas. To overcome this problem, the government needs to implement a strict agricultural zoning policy, which protects rice fields from uncontrolled conversion. This step can be combined with incentives for farmers who manage their rice fields, such as agricultural subsidies, land tax exemptions, or capitalization assistance.

In addition, it is important for the government to involve farmers in the decision-making process related to land conversion in the Subak area. Subak member farmers need to be given an understanding of the long-term impacts of land conversion on their welfare and survival. Balinese culture, which is closely related to Subak, is very important in this regard to maintaining the sustainability of Subak as an integral part of Balinese culture [22]. If the rate of land conversion is not stopped immediately, it is feared that Subak as a social institution and traditional irrigation system will become extinct, which in the end could threaten the identity of Balinese culture in general as a whole. Water limitations are also a serious challenge to the sustainability of Subak.

The increasing population, residential development, and rapid growth of the tourism industry in Bali are increasing the pressure on the availability of clean water. To overcome this problem, subak needs to implement better, more efficient, and sustainable water management. One solution that can be implemented is an optimal irrigation system to save water, such as a drip irrigation system or sprinkler that is more efficient in water use. In addition, wastewater treatment technology can be applied to recycle used water in industry and settlements so that it can be reused for agriculture.

Education for subak farmers about the importance of wise water management must also continue to be improved, so that they are able to utilize water optimally without harming other sectors. Inter-sectoral conflicts in water use can be prevented through clear regulations on proper water control, where priority must still be given to the agricultural sector as the backbone of food security in Bali. On the other hand, environmental pollution, especially water resources, is also a real threat to subak. Pollution from industrial, tourism and residential waste, rivers and irrigation channels can disrupt the smooth distribution of water to agricultural land. To overcome this, subak must play an active role in overseeing environmental sustainability, especially in terms of water quality monitoring [20].

The government needs to tighten regulations related to industrial and tourism waste disposal and apply strict sanctions to parties proven to pollute water resources. In addition, there needs to be collaboration between subak, the government, and the private sector in efforts to rehabilitate and protect water resources. Environmental education for the community is also important so that all parties, both farmers and industry players, understand the importance of overseeing the sustainability of natural resources, including water, for sustainable agriculture in Bali.

In terms of irrigation network management, along with the increasingly limited ability of the government to operate and maintain irrigation networks, subak is required to be more independent. Submission of irrigation management to farmers through the Small Irrigation Submission (PIK) program is not enough to answer the needs of subak in terms of technical and financial skills. For this reason, subak must strengthen the fundraising system through

community-based economic activities. One example is by utilizing subak institutions to develop agribusiness-oriented economic enterprises, such as cooperatives engaged in agriculture or agricultural processing industries. Thus, subak can help improve the welfare of its members while still carrying out irrigation management duties properly. The government must also continue to provide adequate technical support and regulations so that subak is able to manage irrigation independently and efficiently.

In addition, one of the the most worrying challenge for the future subak is decrease interest generation young for jump to sector agriculture. Currently, many Balinese youth are more interested working in the sector industry and tourism which are considered more promising compared to farming. For interesting interest generation young to return working in the sector agriculture, subak need change image agriculture from work less traditional interesting become modern and profitable field [23].

One of the method is with introduce technology modern agriculture, such as use of drones for monitoring land, digital applications for management agriculture, as well as practice agriculture precision. Government and institutions education is also necessary provide training programs relevant skills for generation young, so that they capable become professional modern farmers [24]. In addition, the government can give incentive for race young people who want entrepreneurship in the field agriculture, such as access easy to capital, training entrepreneurship, as well as mentoring technical. Thus, it is expected agriculture will return become interesting sector for generation young, who in the end will strengthen sustainability subak as system agriculture traditional in Bali.

4 Conclusion

Subak system in Bali is one of the agrarian cultural heritages that has very important technical, social, and spiritual characteristics. However, currently Subak faces major challenges in the era of globalization, starting from tourism development which also brings major challenges. If not handled seriously, Subak not only has the potential to become extinct and have an impact on agricultural hydrology, but also a shift in the identity and culture of Bali as a whole. Innovative and collaborative steps must continue to be taken so that the Subak system remains an inseparable part of the lives of the Balinese people. Not only as a cultural heritage but also as an important pillar in achieving food security and social welfare in the future. For this reason, it is necessary to regulate the existence of Subak in every awig-awig of the Traditional Village in Bali to regulate the journey and preservation of Subak.

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