SUBAK: Traditional Irrigation Organization A Cultural Representation of Agriculture in Bali

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Abstract:
The existence of Subak as traditional irrigation organization primarily serves the distribution of irrigation water in rice farming system in Bali, its existence is threatened. This fact reinforces the need for the conservation and empowerment Subak, in addition to the Subak as one of the cultural resources of agriculture in Bali, as well as a World Cultural Heritage (Warisan Budaya Dunia) which has now been recognized by the world, as well as a pillar of development in Bali. Many threats to the preservation of Subak, but one of the biggest threats is increasingly shrinking number of rice field due to the conversion to non-agricultural use continues to rise, and the threat of globalization that can destroy the agricultural sector. For the area of Bali, the destruction of the agricultural sector will be able to lead to further shrinking of rice field, without the existence of Subak rice fields are not lasting, and without Subak preservation of agricultural culture in Bali will disappear and more Balinese culture will be threatened, thus the organization must be preserved along with the rice field with various business. In the face of all these threats, it is necessary to do the reconstruction of the various subsystems Subak, especially limiting their land conversion due to the swift currents of globalization, so that the existence of Subak can continue to be a strong organization, which is capable of dealing with the surrounding environment, including the challenges of the era of postmodernism.

Keywords: Subak, farming culture, preservation, land conversion, reconstruction.

Introduction:
When viewed from the course of history, there is no nation in the world can be a great and lasting without the support of the advancement and preservation of the agricultural sector. Balinese Hindu society throughout history, began his life of farming. Agricultural evolution has come in and become an integral part of Balinese culture that is based on the concept of Tri Hita Karana. God, man, and nature are three elements that must be in harmony so that life can be sustained. Bali puts the farm community as a valuable asset, so that the agricultural land can generate a variety of agricultural products for the survival of mankind.

Human life would not be possible without communication with nature, therefore, farming culture is one of the means of communication with nature, which in Bali is famous for its culture of Subak, a nation's cultural assets timeless era of progress.

Speaking of farming culture in Bali, especially Balinese culture itself, can not be separated from the discussion of Subak, because Subak contributed greatly to the image of Bali with a unique identity. Subak is one of the pillars of agricultural culture in Bali, even no exaggeration to say that the culture of Subak dominate the
cultural system of Bali. According to Arwata (2003: 114), Subak as traditional irrigation organization in Bali mainly function in the distribution of irrigation water, has long been made of rice as an important crop plant in rice field. Since centuries ago, rice has given color to the life and culture of the majority of the population of Indonesia, especially in Bali with Subak system. 

Subak system is one of the indigenous knowledge, applied by farmers for generations reveal many advantages. Indigenous knowledge is the foundation of rationality which has a high, which refers to the concept of Tri Hita Karana, the three elements of the cause of happiness or well-being in people's lives, especially the people of Bali. This is a realization that the Subak system in Bali has always had a harmonious relationship between the three components are related to each other by Subak system. These three components, namely (1) the relationship Subak members with God (Parhyangan), (2) the relationship between members of Subak with fellow members of Subak (Pawongan), (3) the relationship between members of Subak with rice fields (natural) manages (Palemahan). To achieve material and spiritual happiness, the human (Subak members) need to create and foster harmony and harmony of the interrelationships between these three elements, which is set in awig awig Subak. In connection with awig awig Subak, which is closely related to three Subak components, then for more details of each of these components will be described as follows.

Parhyangan is one of the values of the concept of Tri Hita Karana in the Subak system in Bali. One component of the interrelationships between members of Subak with the Creator, as one aspect relegi adopted Subak, expressed with a sense of devotion prostrate presented to the God Almighty (Ida Sang Hyang Widhi Wasa) with His manifestation (Dewi Sri or Goddess of Fertility). To express the devotion prostration performed with various types of religious ceremony or ritual activities. Various religious ceremonies associated with Subak done either collectively or jointly and some are made by individual members of Subak. Various types of religious ceremonies are carried out in a sacred place or shrine called the temple as the temple Bedugul, Ulun Empelan or sacred buildings as a form parhyangan as catu temple (Sanggah Catu).

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Pawongan is one of the values of the concept of Tri Hita Karana the Subak system in Bali. The relationship between man and man as one component of Tri Hita Karana in the Subak is reflected in the Subak members (krama), board Subak (prajuru), all the rules (awig awig) Subak, sangkep or Subak meeting, Subak funds, mutual cooperation, administrative sanctions and penalties as a form of element pawongan. Take charge of Subak is social work must be carried out, in the interest and progress Subak itself.

Palemahan is one of the values of the concept of Tri Hita Karana in the Subak system in Bali. Is the relationship between members of Subak as a man and his environment, especially its ecosystem of Subak. Subak has a natural border region with clear and irrigation network (infrastructure and facilities). Subak members maintain the ecosystem as well as possible, so it is always in balance. The harmony of the relationship is very important in conserving ecosystems of Subak. This concept provides guidance on how to Subak and its members, process and utilize limited natural resources consisting of irrigation water, land or agricultural land, plants and animals in order to provide optimal crops, preserve nature and can provide for the welfare of all members of Subak and their families.

The harmonious of human life, harmonious and peaceful absolutely a harmonious relationship of the three components of the natural dimension. Anthropocentric humans as beings must obey and adhere to the rules and laws of nature (Rrau) who have been there and that was outlined to its through religious teachings handed down by God.

Challenges of Subak:

Violation of norms and rules outlined God's religion will result in the degradation of human morals, which would make man to indulge the passions to fulfill all his desires without regard to the rules of the norm of life, so that will give rise to various social and environmental problems. Environment will be exploited by arbitrarily without taking into account environmental governance resulting in deterioration of the human carrying capacity of the environment, and consequently there will be a disaster as revenge against human nature. People must keep the environment, both natural environment and social environment in order to preserve the human environment too. Environmental sustainability needs to be maintained to develop respect for nature (respect for nature) including preserving the rice paddies and water control system so that the sustainable development of agriculture as a sector of the food supply for the growing population is maintained. Nature needs to be respected, for the benefit of mankind depends on the preservation and integrity of nature, humans have a moral obligation to respect the universe and everything in it, because humans are part of nature and because nature has value in itself. By basing themselves on the theory that ecological is the moral community, every member of the human community or not, have a moral obligation to respect life, both in humans and in other creatures in the whole biological communities (Keraf, 2002).

Humans are part of nature, therefore people must be open and sympathetic in nature. One characteristic of Balinese culture is the tendency to seek balance and harmony. Subak system in Bali, has been able to utilize water based on the principle of harmony with nature in accordance with the basic concept of Tri Hita Karana. With the concept of Tri Hita Karana in Subak in the use of water resources, it is intended to maintain harmony and harmony as well as the concept of life which in harmony with nature. Subak is expected to solve the problem of conflict multipurpose water users, to develop the concept of harmony and togetherness in accordance with the nature of the Tri Hita Karana underlying Subak system.

Subak known as ecosystem management, which is a synthesis of scientific knowledge about the ecological relationships within complex socio-
political conditions, and the framework of the value of the protection of the natural ecosystem in the long term (Grumbine, 1994). In the Subak integrated social, economic and ecological in a an inseparable unit (Surata, 2003). In addition, almost every activity in Subak always reflect the balance of the relationship between God, human beings and the environment so that Subak is also referred to as the organizations that are agro-socio-spiritual (Suradisastra, 2002). Thus, in addition to Subak sustainable farming practices is also one of the most important part of the culture of Bali.

In the further development activities are not glued to the Subak irrigation activities. Subak grown to include the activities of savings and loan money, provision of means of production together, mutual fund raising, religious ceremonies, activities of mutual assistance, the pattern of planting and planting time together as well as a variety of other activities. Other impacts of Subak in spite of attempts to increase production and cropping intensity, also includes aspects of the discipline or the mental attitude of farmers, respect the value of water and other natural resources as well as trying to make the best use possible, a sense of cooperation among farmers, preservation of religious values, customs and culture so as to contribute to the life of tourism which in turn will be able to assure members of Subak able to improve their living standards.

However, within the last 40 years, the development of the life of society has changed from a simple lifestyle and independently to the fantastic life, hedonism and consumerism, which causes no occurrence of a positive correlation to the preservation Subak diminished. According Arwata (2003), there are several challenges that need to be considered Subak as follows. (1) Lack of bargaining power against the decision Subak irrigation infrastructure development, network transfer, determination of cropping patterns, and changes in the spatial structure of Subak (mandala) with various consequences. (2) Powerlessness Subak as the ruler of the land (in the Subak irrigation region) in the event of conversion or conversion designation. (3) No sensitivity of Subak members depletion resulting from changes in social, cultural, economic, and religious who consider ecology to sustain life. (4) Depletion of the values of justice and human relations among Subak members directed by values, where together they are no longer in the entanglement of love, but the relationship is more materialistic. If problems occur in the Subak not addressed the possibility of Bali is not only going to lose one of the unique culture, but also will have broad impact on the environment of life in Bali.

In addition to the influence of the pattern of life that has changed, some important factors that leads to a decrease Subak sustainability, such as lack of interest or the younger generation has a very low interest to work in the agricultural sector, a decline in both the quantity and quality of irrigation water, as well the narrowing of paddy fields due to land conversion to other uses outside of agriculture.

Competition utilization of agricultural land or water resources between agriculture and tourism sector since the past two decades strongly felt in Bali. In the competition was always forced to succumb agricultural sector or other sectors under the pretext defeated more promising generate foreign exchange to finance the construction of Bali and Indonesia in general. Proven reduction of agricultural land and converted to non-agricultural very significant. According Dharmayuda (2001), that from the year 1985 to 1989 the average decrease in rice area in Bali each year about 1000 ha more, since 1994 approaching 4000 ha / year, and in 2000 a decrease in rice paddies in Bali reached 5,000 ha / year. Bali island area 563 286 ha, 97 337 ha of rice field wide. So only 17% of the area of the island is an expanse of rice fields. Furthermore, based on data from the Central Bureau of Statistics (2007), in 2005 the area of 87 850 ha of rice fields in Bali, while in 2006 to 85
777 ha, so that in one year there was a reduction of 2,073 hectares of paddy fields. When the land conversion is increasing over time, this is certainly a red light (warning) for agriculture in Bali in generally, and Subak especially.

More serious threat to the conservation of rice culture in Subak besides wetland conversion are likely to increase and uncontrolled, then tourism, modernization, urbanization and the shift in orientation (generally covered under globalization) to the outside of the agricultural sector, lead to "superficiality" in assessing land paddy. There is a tendency that paddy only assessed in terms of real values (tangible values) solely as yield and economic value of the land. As a result, when the economic value of the crop decreased while the value of land for other purposes is increasing, then the purchase and conversion of fields were increasingly widespread. Factors that no real value (intangible values) such as rice fields in the conservation of soil, water, biodiversity, oxygen supply, recreation, and tourism assets increasingly ignored. Further consequences can already imagine the existence of Subak will be increasingly marginalized and alarming.

Subak Sustainability in the Era of Postmodernism:

Sustainability issues / sustainability Balinese Subak and agriculture in the context of changes in the global situation is very structurally, is an important issue of Subak problems that must be solved. Many experts have been discussing the "anxiety" in view of the existence of Subak in the present and especially in the future. According Windia (in Pitana, 2005), in an effort to maintain continuity or sustainability Subak, Subak dynamically, Subak must perform the transformation or reconstruction, but stick with the basic values that have been held. As a system, water control system has a component idefact, sicicifact, and artifact. All these components can be reconstructed and transformed to conform to external developments in the global world. Furthermore, according Pusposutarjo (in Pitana, 2005) states that the concept of justice in Subak is a strategic concept that should be developed in Subak management into the future. Emphasized the concept of justice is social justice that includes procedural justice, distributive justice and corrective justice.

Although traditionally Subak is a social institution religious, Subak actually has a great potential in developing economic activities. According Suamba (in Pitana, 2005), various properties and internal forces that exist on its own power for the water control system is engaged in economic activity. But the barriers and challenges to make Subak be economic institutions are also still many, both internal and external. Furthermore Sedana (in Pitana, 2005) noticed that the agricultural challenges ahead require a variety of empowerment to the farmer members of Subak, which should be done with a participatory approach. Subak empowerment of farmers is expected to lead to an increasingly loyal attitude towards the profession, proud and feel more prestigious, rejoice in receiving farming, independent in decision-making, and have insight into the economic / agribusiness. This empowerment is a prerequisite in Subak Sustainability.

Subak preservation is very important for the sustainability of Subak and utilization of water resources in Bali which is based on Tri Hita Karana as water utilization organization institution. Suyastiri (2012) stated some effort to do to achieve sustainable and resilient water control system in support of sustainable agricultural development is as follows. (1) Limiting land conversion, can be done for example by way of (a) the spatial planning and land use are carefully taking into account the availability of water, (b) the making of regulations prohibiting the use of rice fields for non-agricultural businesses in places that are already apparent designated as a conservation paddy with
strict law enforcement, (c) tax-exempt for farmers Subak members and other incentives to encourage farmers not transfer The function of their rice fields. (2) Reducing the economic disparities between rural and urban areas or between farmers and non-farmers, this can be achieved through (a) the government policy in agriculture such as pricing policies and agricultural commodity trade policies in favor of the farmers who ensure the improvement of the welfare of farm families, (b) the development of agriculture-based rural industries to increase employment and income of the villagers, (c) the repair and improvement of rural infrastructure such as transport and communications, health care, education, rural credit, and others, this will reduce the intention younger generation village to migrate to the city and encourage to feel at home in his village as farmers or other work available in the village. Furthermore Suyastiri (2012) stated that in addition to the above efforts can be made to realize sustainable water control system and resilient to support sustainable agricultural development is to strengthen / empower institutional Subak, through approaches (a) an increase in the provision of support services (support services) such as credit accessible farming farmers without complicated procedures, market information, agricultural extension, (b) training and education, especially for leaders in various fields such as water control system operation and maintenance of irrigation networks, accounting / financial management, leadership, entrepreneurship, cooperatives, (c) facilitate the development of irrigation institutions Subak be oriented agribusiness, agro-tourism and eco-tourism in order to improve the financial ability without neglecting the duties principally as irrigation water management is patterned socio-religious, (d) government assistance for Subak really need repair network heavily damaged irrigation because it can not be handled solely based participatory approach, (e) recognition of Subak as a legal entity in order to carry out economic transactions and seeking credit in the bank, through local regulations Furthermore Arwata (2003) states ways needs to be done to ensure / maintain constancy Subak as an organization whose members are farmers who work autonomously are: (1) maintain recommitmen about positioning / repositioning Subak based on capacity, (2) establish a protection strategy to highlight the essence of Subak , (3) foster the ability of members of Subak in terms of knowledge, insight, and management so that the understanding of the organization in relation to the scale, strategy, technology, environment, and the center of power is really precise and steady. Having regard to the opinion of the experts at the top of the sustainability of the water control system by emphasizing the complex functions or plural of Subak / multifunctional roles, to preserve water control system is a necessity in maintaining the farming culture in Bali and further is to sustain the development of Bali. Preservation / sustainability Subak be seen holistically, which includes the preservation of cultural and religious rituals associated with rice culture (socio-cultural sustainability), institutional Subak (institutional sustainability), and wetland ecosystems (ecological sustainability), all of this is a reflection of the application of the basic concepts from Tri Hita Karana in the Subak. It also must include the preservation of natural environment around Subak, this is one of the external factors of Subak, but external factors have a direct impact on the preservation of the very real and / sustainability components of Subak system (environmental sustainability). If these things are able do the independence Subak as an autonomous institution will be meaningful in the process of cultural preservation and the development of agriculture in Bali. And also development of Bali for the Balinese.

**Closing and Conclusion:**

Preservation Subak is a very important thing and it is a must to maintain a culture of sustainability in...
agriculture Subak in Bali and further is to maintain the development of Bali which is based Tri Hita Karana as water utilization organization institution. In the face of threats of Subak sustainability, it is necessary to do the reconstruction of the various subsystems Subak, especially limiting their land conversion due to the swift currents of globalization, so the existence of Subak can continue to be a strong organization, which is capable of dealing with the surrounding environment, including the challenges from the era of postmodernism.

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