



Environmental Care Education: Utilization Of Forest Resources Based On Awiq-Awiq Local Wisdom

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Abstract. Environmental care has an important role in realizing good environmental quality. Every individual or group must possess environmental care as well as the indigenous Bayan people who are aware of environmental sustainability. The Bayan indigenous people utilize forest products by applying the awiq-awiq local wisdom. This study aims to reveal the moral values contained in forest management based on the Awiq-awiq local wisdom. The research method used qualitative descriptive with snowball techniques. Data was obtained from key informants through in-depth interviews and observations in the Bayan village, Lombok Island, Indonesia and conducted a literature review. The results of the study show that the Bayan indigenous people have long lived in harmony with nature. Awiq-awiq local wisdom is a guide for the Bayan indigenous people in managing and utilizing forest products. The values and meanings contained in awiq-awiq local wisdom can be integrated in environmental education as an effort to foster a caring attitude towards the environment for the younger generation. The natural condition of the forest still needs to be maintained as an effort to deal with climate change and provide food sources for humans.

Keywords: Environmental Care Education, Local Wisdom, Awiq-Awiq

1 Introduction

Human life cannot be separated from its interaction with the environment. Humans use nature and the environment to meet their needs and improve their welfare. Behavior in utilizing nature can determine environmental conditions. When the environment is not preserved, it has a negative impact on humans, whereas if it is maintained it can provide welfare for humans [1]. However, now the problem of human relations with the environment has become a global issue. Environmental problems caused by the ability to exploit natural resources without paying attention to their sustainability. These activities cause pollution environment which causes a decline in environmental quality and threatens sustainability living creatures, especially the calm and tranquility

of human life [2]. This creates complex problems, so humans are needed who care about the environment [3].

Concern for the environment makes the community try to keep and preserve nature by holding the principle of sustainable development [4][5]. Principles of sustainable development which balances economic, social and environmental aspects, namely the quality of environmental carrying capacity will be better so that natural resources are available for future generations will be guaranteed [6]. The carrying capacity of the environment, which is limited in quantity and quality is something that encourages people to behave well in the environment. Human attitudes and behavior are sometimes not in accordance with reality in general. The results of research on students in Poland, Slovakia and Ukraine state that environmental caring behaviors that are expressed as perceptions have differences with actual conditions [3].

Growing concern for the environment can be done through learning in environmental education. Environmental education aims to realize human beings who are environmentally sound and have the ability to manage the environment wisely [7][8]. The process of organizing values to foster attitudes and behavior in understanding and appreciating human relations, culture and the environment is learning in environmental education [12]. Environmental education emphasizes (i) knowledge of causes, (ii) knowledge of effects, and (iii) knowledge of strategies to change, when facing environmental problems [9].

Environmental education can be done in formal or non-formal forms, this is needed to change the attitudes and behavior of the community as a whole. All levels of society deserve environmental education, because the sustainability of the environment is a human right and obligation. The process of forming a caring attitude needs to be based on the culture inherent in the community. Placing the paradigm of local culture in environmental education can be used as a way of instilling environmental awareness. This is in accordance with one of the master designs for the development of the Indonesian character in 2010-2025, namely building national character is a must of a multicultural nation [10]. Cultural communities from Sulawesi with the Passang Ri Kajang culture can cultivate characters who care about the environment through forest conservation [11]. Building character requires the involvement of various parties such as family, government, formal institutions, non-formal and the wider community that adapts to their local wisdom.

The Bayan indigenous people in West Nusa Tenggara Province also have local wisdom in preserving the environment known as awiq-awiq (rules / customary law). Local wisdom is still used in managing and utilizing forest resources for environmental conservation. Local wisdom is a form of knowledge that exists in people's lives in an area related to humans and the environment [13]. Local wisdom grows and develops from the relationship between humans and their environment as an effort to fulfill needs [14]. Local wisdom is dominated by the traditional values of a social group that carries out the principles of conservation and management of natural resources [15]. The local wisdom contains teachings to sustain and use natural resources in a sustainable manner. Like the local wisdom of Malamang in West Sumatra Province that is able to preserve bamboo forests [16].

Community based forest management has become an influential approach to forest management worldwide [17]. Utilization of forest products is part of forest management. Sustainable use must hold the principles of conservation in order to improve

the quality of life of communities around the forest [18]. As a typical ecosystem, forests are economically, ecologically and socially beneficial [15]. Forest management can provide a balance between exploitation and the social interests of the community. Forest management in several countries in Europe even places safeguards at 74%, social functions at 59% and economic functions by 44% [19]. The current existence of forests is emphasized in the function of mitigating climate change and also food security as a representation of traditional ecological knowledge (TEK) [20]. Therefore, active and sustainable forest management is needed in response to the challenges of climate change. Previous research has not discussed the values contained in forest conservation culture which are able to foster environmental care, so this research focuses on awiq-awiq (Bayan) as local wisdom which is able to foster an attitude of caring for the environment by integrating it into learning, one of which is geography learning.

Management that involves the community can foster the attitude of the indigenous Bayan people who are obedient to awiq-awiq. Subconsciously, it is a caring behavior towards the environment. Some studies that have examined local wisdom in utilizing forest resources include: Tengger people [8], Bali Aga and Samin indigenous peoples [15], Ammatoa indigenous people [14], Minangkabau communities in Sumatra West [1] Dayak Tunjung indigenous peoples, East Kalimantan [21], and Tambon Nong Muen Than, in Thailand [22]. From some of these studies, the focus of his research was to reveal the wisdom of local communities in managing forests. However, not many studies have examined the values of local wisdom in forest management by integrating the moral values of local wisdom in environmental education. Based on this gap, the authors are interested in conducting research that reveals the awiq-awiq local wisdom in forest management in the Bayan indigenous people, Indonesia in a review of environmental education.

Humans' ignorance in protecting the forest also cause the problem of excessive forest exploitation. Efforts need to be made in providing understanding for humans through environmental education programs that begin since early childhood education [7]. Environmental education should contain the concept of emotional attitudes toward the environment and sustainable environmental care practices [3]. Environmental education is the key to prepare the community with an environmentally caring attitude that can solve environmental problems [23]. Enhancing education about nature and the environment through coaching and training in formal and non-formal lane is a manifestation of love for nature, the environment and others [24].

2 Methods

This study used descriptive qualitative method. The study in the Bayan Village, North Lombok Regency, West Nusa Tenggara Province, Indonesia. The Bayan indigenous people live in south of the Mount Rinjani foot. Administratively, Bayan Village borders the Java Sea to the north, Batu Kliang Village to the south, Sambelia District to the east, Kayangan Village to the west. Customary forests in Bayan reach 87.21 ha with an area of 3716 ha.

The data in this research is primary data related to Awiq-awiq in forest management of the Bayan indigenous community which is manifested in the form of behavior. Data collected in the form of interviews were conducted by snowball techniques from

informants who were considered to know forest management and Awiq-awiq local wisdom. In addition, data collection was also conducted with literature studies and observations on the physical and social conditions of Bayan Village. Key informants were obtained namely two Toaq Lokaq (traditional leaders), a Perumbaq (head of the forest guard), two Penyanding (forest guard staff), a Village Head, and five Bayan indigenous people who were aware of the social life of the community.

Interviews were carried out using written and audio records. Furthermore, the data were grouped based on the focus of the research and data reduction is done to obtain pure data. Then, the data were regrouped to obtain the relationship between unit data and the final stage was to draw conclusions [25]. The results of the temporary data and conclusions that have been found were then checked for the accuracy with a triangulation model to examine the values contained in awiq-awiq. The moral values of Awiq-awiq local wisdom were then integrated into high school geography learning using analysis of curriculum

3 Result and Discussion

3.1 Forest Utilization Based on Awiq-awiq Local Wisdom.

The Bayan indigenous people believe Bayan customary forest is a sacred place because it is able to bring blessings and prosperity, so it must be preserved. People use forest products wisely according to their philosophy of life. The philosophy of life of the indigenous Bayan people is the wetu telu. Their daily life is not separated from the wetu telu (relationship between God, nature and humans).

Forest utilization and preservation related to the philosophy of human relations with nature is manifested in the form of awiq-awiq. Awiq-awiq is a customary rule / law that must be adhered to by the Bayan indigenous people. This is based on the fact that local knowledge and lifestyle of the people influence forest conservation efforts [19]. Utilization of forest resources in Bayan indigenous people is reflected in their behavior in accordance with awiq-awiq. Awiq-awiq regulates all the behavior of Bayan indigenous people, one of them when interacting with forests [26]. They try to live in harmony with nature through the use of forests in accordance with their needs without over-exploitation [18].

Awiq-awiq plays a role in directing people's behavior in utilizing forests. This customary rule consists of five things, namely prohibition, permission, requirement, sanctions and customary law enforcement. Rules that are prohibited include cutting down trees, burning and trading forest resources, hunting, gardening and farming, extracting forest products by picking, entering without permission, and taking immoral actions. If cutting down trees without the permission of the customary institution, sanctions will be imposed in the form of fines according to the level of violation. Penalty sanctions that consist of minor, moderate and major sanctions must be carried out for violators. Minor sanctions are in the form of warnings, moderate sanctions are according to agreed rules, while major sanctions are in the form of expulsion from indigenous territories. Major sanctions are imposed on perpetrators who often violate and do not want to pay moderate sanctions. Sanctions are decided after deliberation

(gundem) by traditional institutions led by customary leaders (toaq lokaq), payment of fines after ritual purification (bedak keramis). In accordance with the results of Kama-luddin and Mustolehuddin research [11] namely Put in preserving the forest environment, namely the importance of avoiding greed in the use of natural resources (the environment), this is manifested in the attitude of having to be trustworthy in protecting the environment, protecting the forest, being fair and wise in utilizing the environment, especially the forest environment and prioritizing the principles "abborong" (deliberation) in decision making.

Customary institutions and local norms play a role in monitoring forest use so that they can defend the forest from various disturbances by the community [20][27]. The permitted uses are cutting down trees for customary uses such as ancient mosques and traditional houses, taking non-timber forest resources by collecting. Things required include securing, protecting forest areas and all historical relics in the forest. Excessive exploitation of natural resources without regard to the carrying capacity of the environment results in disasters and ecological disasters for the sustainability and balance of ecosystems in this world [28].

The type of livelihood of the people around the forest influences the use of forests by the Bayan indigenous people. Most people are farmers so that in their activities they need enough water. The existence of forests for communities is important because forests has a function to store and produce water sources [29]. Community behavior in conserving forests is influenced by a strong kinship control system. The community has strong performance in forest management based on tradition, culture and a kinship system that is integrated with local wisdom [18].

3.2 Values in Awiq-awiq Local Wisdom.

The decreasing quality of the environment is influenced by the exploitative actions of excessive natural resources. One example is the excessive felling of trees in the forest, which causes flooding and landslides. Environmental damage continues to increase due to excessive exploitation of nature and industrialization that is not environmentally friendly [30]. This condition encourages the need to educate and provide understanding to the younger generation about the importance of environmental care.

Environmental care education is an effort to instill the intelligence of thinking which is reflected in good habits based on noble values in interacting with God, nature and society. These noble values are honesty, independence, manners, social glory, logical thinking intelligence and sourced from Religion, Pancasila, Culture and National Education Objectives [31]. There are three components in environmental care education, namely knowledge, feelings, and moral actions in realizing good behavior [31]. This is about the character education goal of instilling and developing noble characters so that they can be practiced in their lives to make a positive contribution to the environment [32].

Caring character for the environment is an attitude and action in preventing and overcoming environmental damage. The character of environmental care is reflected in the attitude in managing the environment properly so that the environment can be enjoyed continuously without damaging the situation [32]. The purpose of

environmental education is to create a conducive school environment, form emotional and spiritual intelligence, strengthen positive behavior, correct various negative behaviors, motivate and familiarize learners to realize various knowledge about goodness [15].

Developing characters for students can take advantage of the values contained in local wisdom [33]. Like the awiq-awiq local wisdom that regulates the behavior of indigenous peoples in the use of forest resources aimed at conservation. One of the prohibitions is not to cut down trees in the forest without the permission of customary institutions. This rule contains values that care about the environment, namely 1) attitudes and actions that always strive to prevent damage to the natural environment, and 2) develop efforts to repair natural damage [31]. Awiq-awiq moral values related to environmental care can be seen in table 1.

Table 1. Awiq-awiq Values Found in Environmental Care Characters

<i>Awiq-awiq</i> (Customary rules)	Value and meaning	Indicators of Character Care for the Environment	
		Attitudes and Actions to Prevent Damage	Efforts to repair damage
Rules: It is prohibited to cut down trees, burn, trade, revoke and extract non-timber forest products by picking, entering without permission, doing immoral actions.	Ecological value: the meaning of the prohibition is useful for protecting the forest from damage.	•	•
Activities permitted by traditional leaders' permission: cutting down trees for the needs of ancient mosques and traditional houses, taking non-timber forest products by collecting.	<ul style="list-style-type: none"> • The value of balance implies that living harmoniously with nature can be seen from the rules on the use of forest products. • Value of sustainability, for the continuity of forest functions through activities that do not damage the forest. • Gotong Royong (mutual cooperation) value, when utilizing forest products for the needs of beleq 	•	•

	(ancient mosque) and bale kuno (traditional house).		
Activities that must be carried out: securing and protecting the forest area and all the historical heritage inside it, planting similar trees that already exist in the forest area and carrying out social and cultural activities	<ul style="list-style-type: none"> • Ecological value that implies the prohibition to protect forests from damage and is an effort to repair forest damage. • The value of sustainability means that the forest remains sustainable by planting trees (reforestation). 	•	•
Sanctions consist of moderate, minor and major.	The balance value implies living harmoniously with nature with mutually agreed rules for the purpose of environmental preservation. The sanctions given are a driving force for not doing things that are prohibited	•	-
Customary law enforcement	The ecological value that occurs when enforcement of customary law is carried out on perpetrators of awiq-awiq offenders who can damage the forest	•	-

Based on table 1, forest utilization that applies awiq-awiq local wisdom contains moral values that care for the environment. The use of awiq-awiq-based forests by the Bayan indigenous people contains moral values including ecological values, balance values, gotong royong values and the sustainability values. This study analyzes the use of community knowledge in the form of local wisdom as an alternative in reducing the impact of climate change. Climate change mitigation is obtained from information on both scientific knowledge and indigenous knowledge as one of the non-excessive utilization of forest management [34]. The values contained in awiq-awiq local wisdom are included in the study of environmental education. However, environmental education in Indonesia is integrated into several subjects, one of which is geography in high school. Integration of awiq-awiq values and meanings in high school Geography learning can be analyzed using analysis of curriculum content to obtain appropriate competencies and material. The details can be seen in table 2.

Table 2. Integration of Values and Meanings of Awiq-awiq Local Wisdom in Geography Learning

Awiq-awiq Local Wisdom	Value and meaning	Material of Flora and Fauna in Indonesia and the World	Material of Natural Resource Management in Indonesia
Awiq-awiq consists of prohibition, permission, requirement, sanctions and customary law enforcement	Ecological and sustainable values: found in the knowledge of the community in managing, preserving and protecting the forest for its sustainability. Value of balance and gotong royong from community compliance with the agreed upon rules in utilizing forest resources with a harmonious relationship with nature.	Basic competencies: 3.2 Analyzing the distribution of flora and fauna in Indonesia and the world based on the characteristics of the ecosystem.	Basic Competencies: 3.3 Analyze the distribution and management of forestry, mining, marine and tourism resources in accordance with the principles of sustainable development.

Table 2 explains the integration of awiq-awiq values in Geography learning of high school class XI. The teacher can apply it by integrating awiq-awiq values and meanings into learning, so that students are able to understand the function of local wisdom in preserving forests. These awiq-awiq are learning resources that contain values in caring for the environment of students which are analyzed using material related to environmental themes. This understanding can shape the attitudes and behaviors that care about the environment in students. Learning that involves the environment as a learning resource can shape character and increase student awareness of the environment [35].

4 Conclusion

Based on the results of the research and discussion, it can be concluded that the Bayan indigenous community provides an example that the local wisdom of awiq-awiq is able to preserve forests which contain various character values, one of which is caring for the environment. Integrating the values contained in awiq-awiq by integrating it into learning as a source of studying geography in high school on themes related to the environment.

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