ELEMENTS OF ECOLOGICAL INTELLIGENCE IN SASAK FOLKLORE

ELEMEN KECERDASAN EKOLOGIS DALAM CERITA RAKYAT SASAK

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Abstract

This study explores the ecological intelligence embedded in the folklore of the Sasak Tribe in Lombok, Indonesia, using a descriptive qualitative methodology. The study identifies four ecological intelligence components in Sasak folklore through a critical analysis of significant sources, including Cerita Rakyat Nusa Tenggara Barat (1981) and Sumardjo's folklore with Datu Jayakusuma (1982). First, the stories highlight the complex relationships in nature and shed light on how ecosystems function. Tekayun Nada and other characters represent how conscious humans are of our reliance on ecosystems. Second, Sasak folklore demonstrates how to address environmental issues. In addressing problems such as crop damage and drought, Riwayat Datu Pejanggik's story demonstrates exceptional ecological and spiritual intelligence and inventive problem-solving. Third, folklore highlights the importance of protecting the ecosystem. Ecologically intelligent characters, such as Raga Dundang and Gaos Abdul Razak, demonstrate their intelligence through activities that promote ecosystem preservation. Finally, the Sasak folklore illustrates the wise use of natural resources. The tales of Riwayat Gaos Abdul Razak and Datu Jayakusuma demonstrate prudent use of natural resources and human insight into sustainable resource management. The study makes recommendations for possible additions to the literature on ecological intelligence in academia, as well as useful applications for environmental sustainability programs. It provides insight into the traditional ecological knowledge of the Sasak people and presents a distinctive viewpoint on environmental intelligence. This study sheds light on Sasak Tribe's culture and guides environmental preservation efforts.

Keywords: ecological intelligence; environmental; sustainability; Sasak folklore; text analysis.

INTRODUCTION

The ability to understand and navigate complex ecological systems is known as ecological intelligence, which has grown in importance in today's environmental discourse (McCallum, 2008; Shumba, 2011; Suwandi et al., 2017). Indigenous narratives help create sustainable behaviors and promote a mutually beneficial relationship between humans and the environment, which is more relevant given global environmental issues (Abas et al., 2022; Turner et al., 2000;. Wang et al., 2023). This study conducts a thorough analysis of the intricate web of ecological intelligence woven throughout the traditional storytelling of the Sasak people.

In Lombok, Sasak, the main ethnic group, has its own culture and customs. The Sasak tribe relies on dance, music, folklore, mat-making, ikat weaving, and ceramics (Austin, 2010; Satrya, 2018; Meij, 2022; Yaqin et al., 2023). Weddings, rituals, and religious ceremonies exhibit strong customs. Since Sasak folktales are profoundly ingrained in society, they reveal their ecological awareness (Ardhiati, 2019; Hikmawati et al., 2021; Mahadika & Satria, 2021). Sasak folklore illustrates how traditional culture uses natural knowledge and experience. Folkloric ecological intelligence often shows a keen awareness of sustainability, resource utilization, and ecosystem balance (Aswita et al., 2018; Chen et al., 2022; Zulfikar et al., 2020). Folktales can be used as moral guidelines in ecological intelligence to educate on resource sharing, natural balance, and not over-exploiting nature (Clément, 2020; Mgaya, 2023; Sultoni et al., 2022).

Academics have examined Sasak folklore from numerous perspectives, but Putri Mandalika and Cilinaya's folklore has been the focus. Such as research conducted by Hilmiyatun et al. (2022) who used Norman Fairlough's critical discourse analysis and literary ecology to study Putri Mandalika folklore, Andalas' research (2018) by comparing Putri Mandalika with the myth of Dewi Sri in Java, Wahidah (2019) has also examined the story of Putri Mandalika from an ethnolinguistic perspective, Yoniartini (2021) examined the folklore of Putri Mandalika from a feminist perspective, cultural values in the folklore of Putri Mandalika have also been examined by Al-madia and Ichsan (2022). Likewise, the morality in the folklore of Putri Mandalika has been studied by Ajiani and Hamidah (2020), the value of character education in the folklore of Putri Mandalika has been studied by Karhi et al. (2021), local wisdom in the folklore of Putri Mandalika has been examined by Alaini (2013), to the sociological aspects in the folklore of Putri Mandalika has been studied by Basri and Ahmadi (2023). Cilinaya folklore has been studied using various approaches. The use of metaphors in the text of the Cilinaya folklore palm manuscript was studied by Sawardi et al. (2019). Hidayat (2008) researched Cilinaya folklore's nobility as a symbol of Islamic principles. The local wisdom contained in the Cilinaya folklore was also studied by Shubhi (2012). Khaeriati (2009) and Hendriani et al. (2022) used Vladimir Propp's approach to study Cilinaya folklore in Sasak civilization and its character and function.

This study examines Sasak folklore rather than its ecological intelligence. This research hopes to further environmental sustainability scholarship by studying the ecological intelligence of these narratives. The wealth of Sasak folklore allows for an analysis of how traditional ecological knowledge is transmitted, preserved, and applied to modern environmental change. Sasak folktales include ecological knowledge and a deep awareness of human-environment connections. Many of the Sasak tribe folktales have been successfully captured in books, including *Cerita Rakyat Nusa Tenggara Barat* (1981), which is the result of an inventory by the Department of Education and Culture of the Republic of Indonesia, and *Datu Jayakusuma* folklore by Sumardjo (1982).

This study explores a strategy for integrating local knowledge into modern environmental management and conservation by examining Sasak folklore. This research can improve agronomy and guide policymakers, educators, and community organizers by showing how traditional ecological knowledge is linked to global initiatives. The goal is to raise awareness of ecological issues in local knowledge and encourage collaborative efforts toward a sustainable future. The main question addressed in this research is how the Sasak literature depicts ecological knowledge.

Intelligence refers to the ability to study, understand, and solve problems effectively. Sternberg (2018) divided intelligence into problem solving, environment adaptation, and past learning and adaptation. Ecology investigates organism-environment interactions. Ernest Haeckel coined the term "ecology" in 1869 and defined it as the scientific study of

the interactions between living things and their environments (Begon et al., 1986). Ecology is the study of the natural world and of how organisms interact with their surroundings in ecosystems. (Marten, 2008; Townsend et al., 2008; Clarke, 1954). Based on this reciprocal link within an ecosphere, the modern ecological paradigm tackles the functional interdependence of living organisms and their surroundings. Elder (Phillips, 1999) stressed the need to view ecology as a natural process. All ecological organisms depend on one another.

All living creatures depend on each other and on their circumstances; thus, sentient humans must oversee their environment with intelligence, experience, and empathy. Everyone needs ecological empathy to manage the ecosystem and stop human-made policies from destroying it.(Marten, 2008; Orr, 2002). Ecological intelligence involves empathy, respect, and reverence for nature, as well as a grasp of the impact and solution of ecological problems exhibited by human understanding and attitudes toward using the environment to meet everyday requirements (McCallum, 2008; Goleman, 2009).

Berkes (Pilgrim et al., 2008) identified four levels of ecological intelligence: (1) naming living things (e.g., plants and animals) and physical components (e.g., soil, water, and weather); (2) understanding their functions and uses; (3) understanding land and resource management systems and the social institutions that regulate them; and (4) implementing ecological ethics. According to Suwandi et al. (2018), ecological intelligence involves identifying ecosystem components; understanding ecosystem functions and uses; understanding natural and environmental management systems; understanding environmental values (local wisdom, religious values, and normative values); caring about environmental damage; and adapting behavior. Environmental intelligence (EI) is common in traditional communities. Traditional communities use it as an institution to connect with nature. This helps sustain the natural ecosystem. Traditional community intelligence can help preserve biodiversity, endangered species, forests, and resources (Colding, 1998; Gadgil et al., 1993; Johannes, 1998). The cultural artifacts of the archipelago, such as Lombok Island's Sasak people's folklore, reflect this ecological wisdom.

The Sasaks of Lombok Island dwell in West Nusa Tenggara, Indonesia. Lombok Island lies east of Bali and west of Sumbawa. While the Alas Strait divides Lombok from Sumbawa, the Lombok Strait divides Lombok from Bali. Approximately 25% of West Nusa Tenggara Province is comprised of the 4,738.65 km² island of Lombok (Budiwanti, 2000). Lombok Island has four regencies and one municipality: east, west, central, north, and Mataram. According to the 2020 census, Lombok Island has 3,758,624 residents (Badan Pusat Statistik Nusa Tenggara Barat, 2023).

Sasaks' language and literature are closely related to Bali and Java, their neighboring islands (Marrison, 1997; van der Meij, 2011).The resemblance of Sasak, Balinese, and Javanese cultural artifacts to Lombok dates back to the 17th century invasion of Karangasem Bali, and Saksak (Lombok) was a Majapahit dependency from the book Negarakertagama 1365 AD (Austin, 2010; Marrison, 1997; L N Yaqin, 2018). One Majapahit emperor sent his sons to preach new ideas to the eastern portions of the archipelago, including Lombok Island, according to *Babad Lombok* (Marrison 1997). Architecture, farming, music, art, and literature in traditional Sasak culture demonstrate its influence. In the middle of the 19th century, the Sasak people began writing and narrating stories in their own language. Despite Lombok Island's small size, its literary works are complex and influenced by many other forces (Cederroth, 1975; Marrison, 1997; van der Meij, 2022).

Sasak folklore is told by the Sasak people on the island of Lombok, Indonesia. The folklore of the Sasak tribe is very diverse, and some of it has been successfully written down in book form, both by the government and by individuals. One is a collection of folktales contained in the book *Cerita Rakyat Nusa Tenggara Barat* (1981). This book is the result of the inventory and documentation project of regional culture, the Directorate of History and Traditional Values, the Directorate General of Culture, and the Ministry of Education and Culture of the Republic of Indonesia in 1979/1980. This book contains 20 folktales from three tribes in West Nusa Tenggara province, namely the Sasak (Lombok), Samawa (Sumbawa), and Mbojo (Bima) tribes. The folklore of the Sasak tribe contained in the book totals thirteen folktales, among which are folktales *Batu Goloq, Datu Langko, Embung Putiq, Gunung Pujut, Haji Ali Batu, Kebango Renseng, Raga Dundang, Rare Sigar, Riwayat Datu Pejanggiq, Riwayat Gaos Abdul Razak, Tempiq-Empiq, Tuang Guru Yang Berdosa*, and *Wali Nyantoq* folklore.

In addition to being documented by the government, Sasak folklore was also written by individuals, one of which is the folklore of *Datu Jayakusuma* by Sumardjo (1982) which tells the life story of the character Tekayun Nada to become a king (Datu Jayakusuma). Tekayun Nada is hated by her father because for him, Tekayu Nada's character and attitude are shameful. Tekayun Nada is described as having a character and attitude that always finishes whatever food is provided. For this reason, her father always tried to kill Tekayun Nada every chance he got, in various ways. However, Tekayun Nada managed to escape death with the help of Dewi Anjani.

Human environmental awareness is based on ecological intelligence and traditional environmental wisdom. Local knowledge accumulated over time and sustainability concepts applicable to global ecological challenges are related. Understanding ecosystems, human-nature connections, and sustainable decision-making is ecological intelligence (Sternberg, 2018). EI comprises knowledge, attitudes, values, and practical skills for environmental sustainability (Goleman, 2009; Louv, 2005). Traditional environmental wisdom refers to the local knowledge and methods used by traditional cultures to sustainably use natural resources. Traditional folklore, myths, and customs govern people's conduct toward nature (Berkes, 2018; Ingold, 2000).

Local knowledge, particularly traditional environmental wisdom, is essential to ecological intelligence. Traditional communities comprehend ecosystems and apply the folklore-based ecological wisdom. Folklore helps pass on environmental knowledge and develop ecological intelligence. Folklore generally emphasizes environmental ethics, resource use, and human-nature connections. Folklore illuminates how communities connect to nature. Folklore can also promote conservation and sustainability. Stories about nature, natural resources, and the environment can inspire conservation efforts (Berkes et al., 2000). Folklore figures and tribulations can inspire sustainability. Folklore as a cultural heritage can help communities survive. Community involvement in preserving sustainability-themed folklore helps promote identity and commitment to sustainability (Ingold, 2000). As folktales promote sustainability, they shape environmental attitudes. Thus, using folklore in sustainability campaigns and education can help future generations behave more sustainably.

METHODE

This descriptive qualitative study characterized ecological intelligence in Sasak folklore using ecological intelligence components. Qualitative research investigates phenomena using descriptive data to understand situations, events, activities, artifacts, and even the social characteristics of a society (Ritchie & Lewis, 2003; Creswell, 2009; Leavy, 2017).

The two Sasak folktale books served as data sources for this study. Textual analysis was used to identify two Sasak folktales. Hodder (Too et al., 2023) claimed that to identify the presence of significant passages in the text, textual analysis necessitates close reading. The two Sasak folktales that are the source of the data include *Cerita Rakyat Nusa Tenggara Barat* (1981) and *Datu Jayakusuma* by Sumardjo (1982). The reading of data sources in this study refers to EI theory of ecological intelligence components.

Words and quotes pertaining to the ecological hardiness element included in the two Sasak folktale books served as the study's source of data. In the data analysis stage, this study used the interactive analysis technique of Miles and Huberman (1994), which was presented by referring to the research's focus after the first step of data reduction—selecting, sorting, and selecting data on the representation of ecological intelligence in the eight Sasak folktales that serve as data sources. The final step involved drawing conclusions and validating data.

RESULTS AND DISCUSSION

3.1 Ability to Understand the Function of Ecosystem Components

Understanding ecosystem components requires an understanding of how each biotic and abiotic factor sustains life and balances ecosystems. Understanding the functioning of ecosystem components clarifies their complex interactions. This is necessary for conservation, resource management, and environmental preservation (Dunlap, 2023; Liu et al., 2023; Wei et al., 2022). Tekayun Nada in *Datu Jayakusuma* shows how ecosystem components work in other Sasak folktales.

> *Mengapa mencari kayu bakar mesti jauh-jauh masuk ke hutan, padahal tidak jauh dari rumahnya banyak pohon?.*
> *"Amaq, itu kayu bakar banyak sekali, tinggal menebang saja pohon yang sudah kering-kering."* (p. 3) [Why did he have to go all the way into the forest to find firewood when there were so many trees not far from his house?]. "Amaq, that's a lot of firewood, just cut down the trees that have dried up."]

Ecological intelligence is highlighted when Tekayun Nada asks why he is searching deep in the forest for firewood when there are many trees near the house. This cognitive aptitude recognizes resource abundance and environmental balance (Rosati, 2017; Toujgani et al., 2021). Tekayun Nada's recommendation to cut down dry trees shows ecological knowledge, as dead wood supports nutrient cycle and biodiversity. Tekayun Nada's innocent query symbolizes ecological intelligence, underlining the significance of understanding ecosystem components' ecological functions for sustainable resource usage.

Tekayun Nada and her father sensitively demonstrate ecological knowledge and human impact on the ecosystem. Tekayun Nada's views raise ecological concerns about resource harvesting. This comment emphasizes ecological literacy, where people like Tekayun Nada comprehend and use resources sustainably. According to ecological intelligence, educational initiatives that explain ecosystem dynamics and help people make informed decisions to conserve natural resources are essential (Shumba, 2011; Zulfikar et al., 2020).

Tekayun Nada and Tembeng Muter in the folktale of *Datu Jayakusuma* also grasp other ecological components.

> *Di bawah rumpun rotan keduanya beristirahat. Selain melepas lelah ia bermaksud minum air rotan yang muda. Rotan yang muda, bila dipotong akan mengeluarkan air dan dapat diminum sebagai penawar dahaga* (p. 24-25).

> [Thirst started to get better of them. The two rested under a clump of rattan. In addition to unwinding, they wanted to drink water from young rattans. Young rattan, when cut, releases water and can be drunk as a thirst quencher.]

This quote shows that ecological intelligence is a way to comprehend ecosystem functioning. The quoted biotic ecological component was the rattan plants. Tekayun Nada and Tembeng Muter know how young rattan plants can provide drinking water. A character's awareness of ecosystem functions can be used to tell a story about sustainability and nature-human harmony (Berkes et al., 2000a; Wang et al., 2023). Literary works that exhibit this understanding can convey ecological themes and inspire readers to consider human dependence on ecosystems and their impacts on the natural environment (Lehnen, 2020; Leoni, 2022; Phillips, 2007). These folktales teach sustainability and harmony between humans and nature by showing human dependence on ecosystems and the ability to recognize and appreciate ecological components.

Understanding ecosystem functions helps in conservation, natural resource management, and environmental protection legislation (Lockhart et al., 2023; Massé, 2022). *Datu Jayakusuma's* folklore, especially in Tekayun Nada, depicts human dependence on ecosystems and the ability to grasp natural components. The narrative teaches the necessity of ecological balance, such as the use of firewood and rattan plants for water. This demonstrates the characteristics of ecological intelligence in the knowledge of biotic and abiotic ecosystem components.

Folktales can educate on natural resource use, sustainability, and peace between humans and the environment. Literary works disseminate ecological messages and encourage deep reflection on human impacts on nature (Finck, 2022; Khoo et al., 2022). In the face of global sustainability challenges, folklore might inspire better environmental preservation efforts by revealing the functions of ecosystem components (Dumenil, 2022; Sultoni et al., 2022). This narrative will likely encourage individuals to consider the ecological implications in their daily actions, raising awareness of the need to balance humans and nature.

3.2 Ability to Solve Environmental Problems

Environmental problems include the identification, analysis, and resolution of environmental issues. This requires knowledge, resource management, green technology, and community awareness (Dunlap, 2023; Germann et al., 2023). This ability in Sasak folklore is portrayed by the character Datu Pejanggiq in the folktale *Riwayat Datu Pejanggiq* which is one of the Sasak folktales recorded in the book *Cerita Rakyat Nusa Tenggara Barat (1981).* The community in the story struggled with drought, crop failure, and drinking water. The following quote illustrates this.

> *Setelah berjumpa, putranya itu memohon agar Datu Pejanggiq kembali ke negerinya, karena semenjak ditinggalkan, negeri ditimpa bencana, tanah menjadi kering, padi rusak dan air minum sulit didapat. Mendengar hal itu saudara Datu Pejanggiq pun mendesak agar Datu Pejanggiq berkenan kembali ke negerinya* (p. 88). [There they met. After the meeting, the son begged Datu Pejanggiq to return to his country, because since he left, the country had been hit by a disaster, the land became dry, rice was damaged, and drinking water was difficult to obtain. Hearing this, Datu Pejanggiq's brother urged Datu Pejanggiq to return to his country.]

To solve his people's environmental issues, Datu Pejanggiq, a king/ruler, asks God to rain. Note: Datu Pejanggiq's actions in this quote.

> *Karena itu Datu Pejanggiq pergi ke suatu tempat yang bernama Kemaliq Toro. Di tempat itulah Datu Pejanggiq berdoa dengan doa Istikoq. Tiada berapa lama antaranya hujan pun turun selama tujuh hari tujuh malam. Di Kemaliq itu Datu Pejanggiq memerintahkan untuk meletakkan sebuah batu besar. Demikian jugalah yang dilakukan di Pakulan, setelah doanya terkabul dan hujan turun dengan lebat selama tujuh hari tujuh malam. Setelah kedua peristiwa itu Datu Pejanggiq berpesan, bila kelak terjadi tanaman padi rusak karena penyakit, hendaknyalah dicarikan air penawar di kedua tempat tadi. Atas karunia Tuhan tanaman akan baik kembali* (p. 88). [So, Datu Pejanggiq went to a place called Kemaliq Toro. Datu Pejanggiq prayed on the Istikoq prayer. No matter how long in between, it rained for seven days and seven nights. At Kemaliq, Datu Pejanggiq ordered the placement of a large stone. The same was done in Pakulan, after his prayer was answered, and it rained heavily for seven days and nights. After these two events, Datu Pejanggiq advised that if the rice crop was damaged by disease in the future, he should look for antidote water in the two places. By God's grace the plants will be good again]

Datu Pejanggiq solves environmental problems using his ecological and spiritual understanding in this excerpt. Datu Pejanggiq prayed Istikoq prayers on Kemaliq Toro, a sacred Sasak hill, to prevent drought and rice plant damage (prayers asking for rain in Islam). Datu Pejanggiq's prayer at spiritual spots shows his understanding of nature-human interaction. Datu Pejanggiq placed large stones at Kemaliq Toro and Pakulan as symbols after his prayers were answered and rain fell for seven days. This may be because of the abundant natural environment (Irawan, 2022; Wilkie et al., 2022). Datu Pejanggiq's order to find antidote water for the harmed plants shows his proactive and sustainable attitude to managing natural resources for agriculture. Datu Pejanggiq uses spirituality, indigenous knowledge, and practical activities to promote an ecological balance (Aswita et al., 2018; Winslow, 2022).

Local knowledge, spirituality, and practical action together build a model of ecological intelligence that promotes ecological balance through concrete activities motivated by local and spiritual values (Abas et al., 2022; Scatolini, 2022). A comprehensive and sustainable approach to natural resource management involves ecological intelligence, in which people and communities respond to environmental changes and preserve and restore ecosystems (Grabowski et al., 2022; Rogers et al., 2023; Toujgani et al., 2021). The folklore of Riwayat Datu Pejanggiq helps explain ecological intelligence and shows that small groups that love and respect nature can achieve environmental sustainability.

3.3 Ability to Preserve the Environment

Maintaining an ecological balance involves intentional environmental protection. These include sustainable lifestyle practices, efficient waste management, energy conservation, sustainable agriculture and land management, biodiversity protection, environmental policy contribution, wise resource use, green technology development, climate change management, community environmental education, and global initiatives (An et al., 2023; Flood et al., 2022; Suwandi et al., 2017). This capability aims to maintain and improve environmental conditions for long-term sustainability.

The understanding of environmental conservation efforts is also reflected in the actions of the character Raga Dundang in the folklore of *Raga Dundang* contained in

the book *Cerita Rakyat Nusa Tenggara Barat* (1981) when he slaves his buffaloes. The actions of the character Raga Dundang can be observed in the following quote.

> *Seperti halnya dengan hewan-hewan yang lain kerbau ini pun memerlukan air minum secukupnya. Dan apabila tiba saatnya, maka Raga Dundang membawa kerbau-kerbau itu ke sebuah pantai yang bernama Laut Selong. Di sanalah kerbau-kerbau itu minum dan berkubang sepuas-puasnya* (p. 68). [Like other animals, buffaloes also need sufficient drinking water. When the time came, Raga Dundang brought the buffaloes to a beach called the Laut Selong. There the buffaloes drank and wallowed to their heart's content.]

Raga Dundang protects the environment and feeds his buffaloes with ecological understanding. Raga Gundang's ecological intelligence reveals she realizes buffaloes require water. Raga Gundang brings buffaloes to the Selong Sea beach to maintain its ecology. Thus, the basic needs of the animals were met. Bisons are brought to the beach for walking and drinking. Raga Gundang knows his buffaloes' natures. Buffaloes naturally walk in water and keep them clean. Raga Dundang's ecological knowledge shows in his efforts to maintain the environment and care for his buffaloes.

The ability to preserve the natural environment is also reflected in the actions of people in the folktale of *Riwayat Gaos Abdul Razak* in *Cerita Rakyat Nusa Tenggara Barat (1981)*, who repaired the spring. This can be observed in the following quote.

> *Setelah tiba di tempat itu Gusti Ketut Gosha menyaksikan rakyat sedang bekerja menyempurnakan sebuah mata air. Mereka bekerja semua.*
> *"Astaga kau semua pada bekerja sehingga tak pernah menghadap ke istana."*
> *"Benar Tuanku. Kebetulan di sini terdapat mata air baru yang dapat kami manfaatkan sebagai tempat mengambil uduq maupun mandi."* (p. 68). [After arriving at the place, Gusti Ketut Gosha saw that the people were working to perfect a spring. They were all working. "My goodness you are all at work so you never come to the palace." "That's right, my lord. It just so happens that there is a new spring here that we can use as a place to take uduq or bathe."]

The quote shows how much the community values springs as a natural resource. Conservation and improvement of the spring demonstrate ecological intelligence, which maintains the ecosystem balance. Locals can protect the environment by using resources properly. Future generations must be cared for alongside the current requirements (Rosati, 2017; Scatolini, 2022; Ynacay-Nye et al., 2023). The sustainable use of the new springs provides direct advantages and lays the groundwork for a harmonious life with nature.

The main character in the folklore of *Riwayat Gaos Abdul Razak* in *Cerita Rakyat Nusa Tenggara Barat (1981)*, Gaos Abdul Razak's directives to his followers demonstrate ecological intelligence in the form of environmental preservation. See the excerpt below.

> *Segera setelah angin reda, tiba-tiba di tengah laut muncul bayangan Gaos Abdul Razak. Ia tampak sedang menunggang kuda dan terdengar sebuah suara.*
> *"Wahai murid-muridku yang berada di Sekar Bela Timba Bengaq, kunjungilah tem p atk u di Padang Rea. Apa saja yang kalian jumpai. di tempat itu, buatkanlah ia makam atau tenda. Bila kalian tidak mampu membuat yang baik, boleh hanya ditancapkan pohon bantenan atau pohon beringin agar dapat kau jadikan tanda kelak."* (p. 99). [As soon as the

> wind died, suddenly in the middle of the sea, the shadow of Gaos Abdul Razak appeared. He appeared to be riding a horse, and a voice was heard. "O my students in Sekar Bela Timba Bengaq, visit your friend in Padang Rea. Whatever you find in that place, make it a tomb or tent. If you are not able to make a good one, you can just plant a bantenan tree or a banyan tree so that you can make a sign later.]

Gaos Abdul Razak's environmental lectures demonstrate eco-intelligence. Gaos Abdul Razak teaches communication and environmental preservation. He was attentive while riding a horse in a lake. His suggestions to the students to visit Padang Rea display environmental awareness. Telling people to build tents or tombs showed compassion and respect for nature. Gaos Abdul Razak believes indigenous wisdom must be taught in sacred nature (guarded). He suggested growing banyan trees as a symbol of environmental consciousness. The initiative showcases Gaos Abdul Razak's ecological intelligence, which prioritizes environmental protection and human interaction. Environmental preservation is essential for ecosystem survival and balance (Aditya et al. 2018; Suwandi et al. 2017). Examples include sustainable lifestyles, waste management, energy conservation, agriculture, biodiversity protection, and environmental policy contributions.

3.4 Ability to Utilize the Environment Positively

To maximize the environmental potential, we employed sustainable practices and attitudes. This includes agriculture, water management, and resource conservation. These qualities promote environmental awareness, sustainability, and improvement (Germann et al., 2023; Hu et al., 2023; Jiang et al., 2023). *Datu Jayakusuma's* folklore reflects Sasak ecological intelligence, which is the ability to use nature productively. In the following quotation, Amaq (Tekayun Nada's father) represents this capacity.

> *Ketika masuk di halaman rumah, ia berlagak lemas. Pura-pura bersedih. Kapaknya diletakkan di dekat pintu. Ia duduk di bangku panjang yang dibuat dari bambu. Badannya disandarkan di dinding, pandangannya lurus ke depan* (p. 5). [When he entered the courtyard, he acted only weakly. He pretended to be sad. The patient's axis was placed near the door. The patient sat on a long bamboo bench. His body leaned against the wall, his gaze straight ahead.]

The quote shows how to use the environment. The choice of a long bamboo bench shows how organic materials can provide basic but pleasant seating. Bamboo's habitat is noted. The other three Datu Jayakusama folktale characters use nature productively, but only Amaq is ecologically intelligent. The story stars Sigar, Tember Muter, and Tekayun Nada.

> *Pada suatu ketika, mereka tiba di tempat yang tanahnya subur dan banyak binatang buruan. Dalam suatu hari saja mereka dapat menangkap tiga belas ekor rusa. Tidak mungkin daging sebanyak itu dimakan mereka bertuga dalam satu hari. Mau dibawa berkelana kiranya akan merepotkan. Oleh karena itu mereka bermaksud kiranya akan menetap di tempat itu. Mereka membuat gubuk. Atapnya dari ranting dan daun-daunan. Tiang dan dindingnya dibuat dari batang pohon di sekitarnya* (p. 29). [Once upon a time, they came to a place where the land was fertile, and there was plenty of games. On one day, they caught 13 deer. There was no way they could eat that much meat in one day. It would be troublesome to carry this around. Therefore, they intended to remain there. They built a

hut. The roof is made of twigs and leaves. The poles and walls are made from the surrounding tree trunks.]

When they found lush, game-rich country, the humans (Tekayun Nada, Tembeng Muter, and Sigar) sensibly settled down and used the natural riches. The use of locally accessible resources to build cabins with twigs and leaf roofs shows inventiveness. Using tree trunks as hut poles and walls shows how humans may use their surroundings to make modest yet useful shelters (Gordon et al., 2023; Hikmawati et al., 2021; Ross et al., 2023). Humans can sustainably use nature for settlement and daily living.

Ecologically intelligent Tekayun Nada, Tembeng Muter, and Sigar benefit the environment. Use natural resources wisely. They settled in a fertile area, knowing their environment. Location, fertile land use, and living in harmony with nature are alternatives (Bourlet & Lorin, 2018; Albuquerque et al., 2023; Winslow, 2022). Ecological intelligence requires the creativity of local materials. Twigs and leaves cover their dwellings, whereas tree trunks form the poles and walls. These people are aware of local resources. These natural elements have been used to build creative shelters (Boubekri et al., 2023; Sari et al., 2020; Toujgani et al., 2021). Third, ecological intelligence analyzes the long-term environmental effects of human behavior. The characteristics of eco-friendly materials and construction processes promote sustainability (Pradeep, 2023; Suwandi et al., 2018; Dewi, 2018), providing daily needs and teaching future generations how to live in harmony with nature, by considering the ecological impact of every action.

The ability to positively utilize the natural environment is also shown by the folk characters in the folklore of *Riwayat Gaos Abdul Razak* contained in *Cerita Rakyat Nusa Tenggara Barat (1981).* As shown in the following sentence, figures in the folktale use water positively.

> *Setelah tiba di tempat itu Gusti Ketut Gosha menyaksikan rakyat sedang bekerja menyempurnakan sebuah mata air. Mereka bekerja semua.*
> *"Astaga kau semua pada bekerja sehingga tak pernah menghadap ke istana."*
> *"Benar Tuanku. Kebetulan di sini terdapat mata air baru yang dapat kami manfaatkan sebagai tempat mengambil uduq maupun mandi."* (p. 94). [After arriving at the place, Gusti Ketut Gosha saw that the people were working to perfect a spring. They were all working. "My goodness you are all at work so you never come to the palace." "That's right, my lord. It just so happens that there is a new spring here that we can use as a place to take uduq or bathe."]

Natural resource use can be improved by knowing and controlling the neighborhood water supply. Water is essential for life; thus, spring perfectionists understand it. Natural bathing and uduq (washing hands, feet, face, and head before prayer) demonstrate the ecological wisdom. Gusti Ketut Gosha showed ecological intelligence by observing and listening to the locals and communicating with them to use the environment constructively. In this situation, King Gusti Ketut Gosha provides local guidance. This strategy balances human demand and environmental sustainability. Communication and debate can help them decide how to use natural resources sustainably (Gordon et al., 2023; Irrubai et al., 2018; Posthumus, 2007). This demonstrates natural resource management abilities and prepares humans for ecological intelligence. Human needs and environmental sustainability are balanced (Berkes, 2007). This quote demonstrates the ecological knowledge and practical utilization of natural resources in sustainable environmental interactions.

CONCLUSIONS

Sasak folklore defines ecological intelligence as understanding ecosystem processes, solving environmental problems, preserving the environment, and efficiently using resources. Tekayun Nada exemplifies human awareness of ecosystem interdependence and ecological components in *Datu Jayakusuma's* storytelling. Environmental equilibrium is stressed in folklore, demonstrating the ecological intelligence in resource allocation. *Riwayat Datu Pejanggik's* story shows how education, eco-friendly technologies, and community consciousness can overcome environmental issues. Datu Pejanggik's drought control plan includes spiritual and cultural elements due to his ecological and spiritual expertise.

Raga Dundang protects the ecology near Selong Sea beach, allowing buffaloes to realize their natural needs. The story *Gaos Abdul Razak* exemplifies prudent resource management and a sense of accountability towards the environment and future generations. His teachings emphasize the connection between humanity and nature through the use of indigenous knowledge to promote environmental protection. The efforts of folktale characters to preserve ecosystems have demonstrated the importance of ecological intelligence in environmental protection. *Datu Jayakusuma* and *Gaos Abdul Razak's* narratives exemplify prudent human resource management through their positive environmental resource utilization. The inventiveness of characters in building practical dwellings while considering resource sustainability promotes environmental harmony. In general, Sasak folklore demonstrates how ecological intelligence affects sustainable ecosystems and daily life.

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