

Ecological Wisdom of Wayang Kamasan: A Thought for Climate Change Education

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Abstract

The climate crisis threatens the sustainability of global ecosystems. To address climate change education, which has traditionally focused on scientific and technical approaches, one can consider learning from the ecological wisdom of ancient peoples. This qualitative paper explores the ecological wisdom behind the traditional painting of Wayang Kamasan through observation, interviews, literature study, and documentation. From the perspective of art education, this research seeks to understand the relevance of ecological wisdom to climate change education. The analysis shows that Wayang Kamasan's ecological wisdom includes three aspects: the use of eco-friendly materials, the exclusive visualization of natural components, and ecological expression. The practice of traditional art in the context of climate change education can provide an aesthetic experience that captures the emotions. These emotions are fundamental in understanding the issues, developing critical thinking, and building wisdom of action. This can impact not merely environmental sustainability, but the sustainability of culture itself.

Introduction

The threat of climate change is increasingly evident in the well-being and sustainability of all global ecosystems. Increasing weather variability and increasingly visible hazardous impacts, such as rising temperatures, declining water quality, and rising sea levels are becoming increasingly alarming (A. & Rosalina, 2022). Beyond this, environmental damage also affects the economic, social, and political spheres of society (IPCC, 2022). Global organizations, including the United Nations Framework Convention on Climate Change (UNFCCC) in 1992, the United Nations Educational, Scientific and Cultural Organization (UNESCO) in 2009 and 2010, and the joint efforts of UNESCO and UNFCCC in 2016, have stated that climate change education is essential and needed to deal with the climate crisis (Reid, 2019). Lenzholzer's (2020) study on the sense of urgency of climate change in several countries also shows that education is the most effective way to increase people's environmental awareness. In the scope of national development studies, education as climate action plan is strategically an indicator of the success of the environmental development pillar (Bappenas, 2020). Broadly speaking, climate change education can be a holistic approach to climate change mitigation and adaptation efforts, both locally and globally.

There is a growing demand to learn from the wisdom of the ancients and apply time-tested practices and philosophies in climate mitigation. Local communities are well-versed in climate change mitigation and adaptation efforts. They extend their knowledge to apply the wisdom of managing nature. A case study conducted by Kakoty (2018) on the management of Khasi sacred forests shows that traditional knowledge systems have the capacity to address many of the problems of modern civilization and achieve sustainability. Addressing mitigation and adaptation through scientific and technical approaches — such as renewable energy or environmental science — has the potential for great benefit, but still leaves some challenges for sustainability (MacArthur et al., 2020). The integration of local knowledge enables more effective and sustainable climate change adaptation strategies among targeted indigenous communities (Makondo & Thomas, 2018). Studies that include local culture as its object in the discourse of climate change education can provide a broader perspective on the various approaches that can be used, or even allow for collaborative and innovative approaches that are cross-sectoral.

It is interesting to see the wisdom behind Balinese culture that shows a strong connection with nature over the centuries. Culture is often utilized as an adaptive mechanism to coexist with nature (Sutton & Anderson, 2023). Vicker (2011) explored Balinese cultural artworks, including traditional art paintings, and found that the strength of the art emerged from the intentions of the group of artists. One of these paintings is a Wayang Kamasan painting by I Nyoman Mandra. The traditional art of wayang painting from Kamasan Village, Klungkung or better known as Wayang Kamasan, has developed since the 4th century (Campbell, 2019),

and is used in depicting various situations, including the relationship between humans and the environment. Similarly, the Wayang Kamasan painter, Mangku Muriati (personal communication, August 15, 2023), said that in the past Wayang Kamasan was used for spiritual and aesthetic purposes, philosophically, it was also about a way to connect humans with nature. Bringing together the above statements, this paper aims to identify the ecological wisdom aspects of Wayang Kamasan and explain its relevance in the context of climate change education.

The argument presented in this paper is that the artistic practice of Wayang Kamasan has ecological wisdom that can serve as an approach to climate change education. As an approach, Wayang Kamasan serves as a catalyst for knowledge and experience that builds wisdom of action in climate change adaptation and mitigation efforts. To develop this argument, the result section of this paper explores aspects of ecological wisdom behind the artistic practice of Wayang Kamasan. Furthermore, in the discussion section, the relevance of the ecological wisdom of Wayang Kamasan in climate change education is discussed using the perspective of art in education. The results and discussion of this paper conclude that the ecological wisdom of the traditional art of Wayang Kamasan in the context of climate change education—both formal, informal, and non-formal—brings the idea of local-global collaboration for climate change adaptation and mitigation efforts, as well as the idea of rethinking the treatment of traditional art for the impacts of climate change.

Literature Review

Wayang Kasaman Art Tradition

Wayang Kamasan is a Balinese cultural tradition that has endured for centuries. During the period between 1380 and 1651, when Bali was ruled by the King of the Dalem lineage, Kamasan Village served as a hub for artistic development (Lasminah, 1981). Historical evidence suggests that in the past, Kamasan Village had a community group with skills in producing high-value artworks from metal materials, as well as paintings. Archaeological evidence at the Kerta Gosa site demonstrates the Kamasan community's painting expertise. The site was once a complex of Klungkung royal buildings. The ceiling of Kerta Gosa is filled with paintings using wayang characters as the character of *wayang pagelaran* (wayang performances). From a visual point of view, all the paintings use the same pattern of color gradations. The paintings represent the identity of the traditional style that has been maintained through generations.

Wayang Kamasan tradition originates from the knowledge, practices, and beliefs of the Kamasan people. The Wayang Kamasan paintings depict tradition and showcase religious art practices that are closely tied to Balinese life and culture, which is heavily influenced

by religion. Wayang Kamasan paintings serve both aesthetic and religious purposes. They feature fragments of Hindu philosophical stories, such as Ramayana, Mahabharata, and Arjuna Wiwaha, for their aesthetic function. For their ritual function, they depict more figures of Hindu gods. These paintings are used in various rituals, including *kober*, *langse*, *umbul-umbul*, *lontek*, *parba*, and *ider-ider*, as well as *rerajahan* (Sucitra Arya, 2012). This fragment demonstrates that traditional artworks in Balinese culture hold rich philosophical and sacred values.

Ecological Concepts in Balinese Art Traditions

The discussion of an ecological concept in Balinese traditional art can begin with a discussion of Balinese culture, which is mapped in a large concept called *tri hita karana* (THK) (Geria et al., 2023). The mapping of THK began in the 1960s (Wiana, 2007) with the aim of organizing Balinese identity in the national sphere. The underlying policy formulation was a guideline for Balinese people to live for sustainable prosperity by harmonizing local customs with village social affairs (Roth, 2014). To arrive at such a policy formulation, the conceptual form of THK is the result of modifications that combine local Balinese traditions with Hindu theological doctrines and practices (Ramstedt, 2014). As elaborated, THK consists of three main ideas, namely; First, *parahyangan* (harmonious relationship between humans and the divine aspect); Second, *pawongan* (harmonious relationship between humans and humans); Third, *palemahan* (harmonious relationship between humans and nature). The implementation of the policy includes the management of common land around the village, such as rivers, mountains, forests, sacred areas, and *subak* collective agricultural land (Huang & Rockwell, 2019). The results of policies based on THK are expected to support sustainability efforts for the entire social, religious, community, and environmental ecosystem.

THK, in its specific ecological context, places a strong emphasis on guidelines for the overall management of the environment. The environment beyond the human self is respected, this symbolic honor is done through ritual celebrations. As a form of celebration, the arts, such as music, performing arts, handicrafts, crafts, and visual arts, are incorporated into both sacred and profane forms of art. The blending of arts in the traditional culture of the Balinese is a manifestation of thought that reflects the connection between humans and the divine aspect and the human environment itself (Davies, 2007). When ritual is the outer shell to reach the highest essence of Brahman, then art essentially supports community interaction in socio-religious space to simultaneously move to form an eco-religious spectrum that reflects the meaning that nature (*palemahan*) nature is part of the highest essentiality (Sukarma, 2018). Art is not just the dialectic of beauty, but also the intramental dialectic of man with nature and the god-divinity.

Climate Change Education

Education is a critical element in responding to the challenges of climate change (Bangay & Blum, 2010). Climate change education is a holistic approach to climate action awareness (Tang, 2022). The United Nations (UN) in its Seven Sustainable Development Agenda (SDGs) promotes sustainable development globally through climate action (Hák et al., 2016). One piece of literature published by Tolppanen et al. (2022) discusses the effectiveness of climate change education conducted by the educational platform Climate.now. In assessing its effectiveness, he found a complex range of factors affecting its effectiveness, such as knowledge gaps. However, in most national and state development strategies it is widely agreed that the provision of education is a way to reduce this (Bangay & Blum, 2010). Broadly speaking, this reveals a great need for educational provision at all levels to connect and enhance knowledge on environmental issues, development, and social change.

Climate change education must reach all individuals, groups, and communities. The active involvement and empowerment of adults aimed at minimizing the impact of climate change is highly significant. Instead of relying solely on conventional teaching systems through school institutions, there is a need to combine ecological orientation with adult learning paradigms (Griswold, 2016). The approach used to teach adults about environmental and sustainability issues draws on collective action processes that occur within the sphere of social movements, community-based organizations, and other traditional learning spaces (Kant, 2011). Greater participation through educational schemes allows for the formation of larger and stronger safety nets for the protection and healing of fragile environments.

Method

This study focuses on the ecological wisdom of Wayang Kamasan. The determination of Wayang Kamasan as the object of study is based on the characteristics of Wayang Kamasan as a communal art, inherited for hundreds of years around 4th century and still maintained by the people of Kamasan Village. Having strong local roots in Bali Arts Festival (BAF), an annual cultural agenda as an attempt to explore, preserve, and develop Balinese cultural arts values, the presence of Wayang Kamasan in this annual agenda is interesting. The participation of Wayang Kamasan painters in BAF 2021 and 2023 features environmental issues. It becomes relevant to explore the ecological wisdom behind it and find its relevance in the context of climate change education.

This paper presents the results of qualitative research utilizing primary data obtained through direct observation and interviews, and secondary data obtained through literature study and documentation. By combining primary and secondary data, this paper maps the wisdom of Wayang Kamasan that is relevant to the ecological context based on the processes or

phenomena behind it. The data collected for this study include: 1) Artistic practices that have a direct correlation with nature; 2) artistic practices that depict forms of natural elements; 3) artistic practices that express experiences with nature. Each part of the data is crucial to the study's results.

The participants in this study were the Wayang Kamasan art group. Purposive sampling was used to select representative individuals based on their popularity as painters and recommendations made by various parties, including the Kamasan Village Government and the Rumah BUMN Klungkung. The interviewees were Juli from the *bubuan* canvas craftsmen group, and Mangku Muriati and Pande from the Wayang Kamasan painter group. The shared information accurately reflects the data and the desire to disseminate knowledge of Wayang Kamasan.

The presentation of ecological aesthetics in Wayang Kamasan paintings at BAF 2023 marked the beginning of the research process. The determination of the next step towards the data collection process began with observative actions through visits to several groups of painters, craftsmen, art galleries, village government, and Rumah BUMN Klungkung, all of which are within the scope of the Kamasan village area. The observation data were initially collected through passive interviews. However, from June to early August 2023, intensive interviews were conducted with numerous painters to obtain more detail data. Along with in-depth interviews, data in the form of documentation of artistic activities and relevant paintings were obtained. Accompanied by data support from literature studies, data mapping was carried out to support the overall preparation of a report that presents the ecological wisdom of Wayang Kamasan and its relevance for climate change education.

The report presented in the results and discussion section is the result of an in-depth analysis of the various data that have been mapped previously. The data used for analysis is data that has been reduced, displayed, and verified. Ecological wisdom data is presented in tabular form, and interview data is presented in narrative form. The next steps of data analysis are: First, data presentation again by describing the findings; second, data description by finding patterns and trends from the data results; third, data interpretation by reviewing in order to arrive at relevant conclusions. Data analysis in this study seeks to provide an in-depth understanding of the ecological wisdom behind Wayang Kamasan and its relevance for climate change education.

Result



An exploration of the ecological wisdom behind Wayang Kamasan revealed three key aspects, namely: Firstly (Table 1), the distribution of eco-friendly materials; Secondly (Table 2), the visual exclusivity of nature components; Thirdly (Table 3), ecological expression.




Wayang Kamasan and the Distribution of Eco-Friendly Materials

The production flow of a classic Wayang Kamasan painting involves environmentally friendly materials from nature. The process of working on Wayang Kamasan is managed by a communal system that involves several groups of people based on their expertise, such as canvas craftsmen, painters, and color experts. The canvas makers have the expertise to make *bubuan* canvas, which is a porridge dough (*mubuhin* or *nginjinin*) made of calico and wheat flour. It is molded and finished with special shells from Padangbai beach to create the appropriate texture. The painter group plays a pivotal role because in addition to their painting skills, they must also understand the rules of the tradition, usually using a tool called a *yip* made of Jaka tree sticks for sketching. The color expert group has expertise in mixing and blending colors. The dependence on nature is evident throughout the production process of Wayang Kamasan paintings.

Table 1

Distribution of eco-friendly materials

Key Aspect	Initial	Description	Detail Photograph
Material	<i>Bubuan</i> canvas	<i>Bubuan</i> canvas has a special texture that makes the colouring process of Wayang Kamasan stick perfectly.	 <p><i>Figure 1. Making Canvas Bubuan, 2022. Private Documentation</i></p>  <p><i>Figure 2. Ngalusin, 2022. Private Documentation</i></p>

	Shells	In some experiments to overcome the scarcity of these shells, shells from other regions were also tried, but they were not able to produce the same level of smoothness in the <i>bubuan</i> canvas.	 <p>Figure 3. Shell of Ngalusin, 2022. Private Documentation</p>
Painting tools	<i>Yip</i>	A tool used as a pencil in the process of sketch.	 <p>Figure 4. <i>Yip</i>, 2022. Private Documentation</p>
Dye Materials	Pere stone, gincu, mangsi, oil lamp soot, animal bone, deer antler	The yellowish-brown dye comes from pere stone, the red dye is a mixture of pere stone and gincu, black from mangsi or oil lamp soot, and white is obtained by powdering pig bones or deer antlers.	 <p>Figure 5. Preparing Dye Materials, 2022. Private Documentation</p>

When the world had not yet reached a time when technology was rapidly developing, nature was the answer to support all the processes of society's needs, including in artistic activities. The use of tools and materials from nature has indications that lead to a process of adaptation to the environment. If this is the case, the question arises as to why the traditional way of production is still maintained by this communal group in an era of technological advancement. It seems a little ambiguous to place these traditional artistic practices in the box of adaptation, or it does indicate a stronger connection that nature for local communities has been placed at the pinnacle of civilization. Nature does not stop at visualizing its awe-inspiring beauty, but is interpreted as the living and humans depend on this living nature, so making art (profane or sacred) is an attempt to build harmony with nature. It becomes possible

to establish the sublimation of harmony from traditional painting in this era of massive technology.

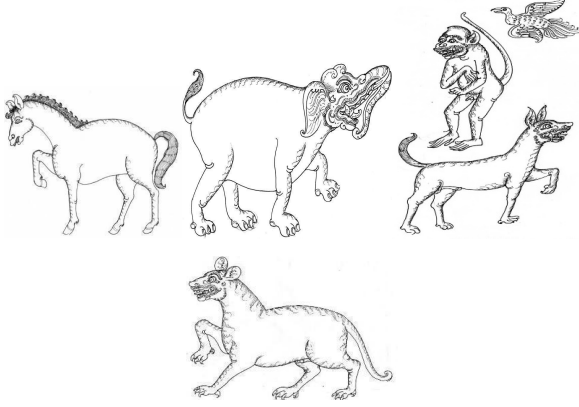
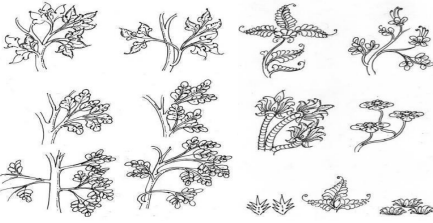
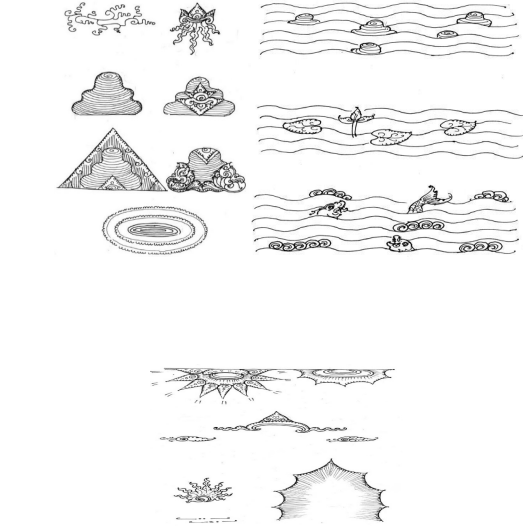
In the past, eco-friendly artistic practices were deeply intertwined with the relationship between people, culture, and nature (Morawski & Dunnington, 2021). It is important to maintain a balance between the local culture and nature. The sustainability of the Wayang Kamasan culture in the future, at least in terms of its authentication as a classical art from Kamasan Village, will be affected by the distribution of tools and raw materials from nature, such as shells, pere stones, and yip. Due to the scarcity of raw materials, groups of painters have resorted to using acrylic coloring and drawing pens to continue their work. This scarcity is allegedly caused by land conversion, social change, and climate change. According to Pande, a Wayang Kamasan painter interviewed on August 31, 2023, scarcity has been a persistent issue since the early 2000s, resulting in increased production costs. Juli (personal communication, August 15 2023), the sole surviving *bubuan* canvas craftsmen, expressed similar concern about the scarcity of *ngalusin* shells. The disruption of the distribution chain for tools and materials used in creating Wayang Kamasan paintings is a warning sign for the sustainability of traditional art.

Wayang Kamasan and the Visualization of Exclusively Natural Components

The exclusive form of Wayang Kamasan arises because traditional communities seek to maintain their existence and the wisdom values that are part of their identity. The exclusive context also depicts high quality due to confidence, excellence, and the endeavor to separate oneself from outside influences to preserve the intended values. These values include sustainability values that are visualized in the form of symbols from various natural components (Table 2). Conceptually, the composition or technique of arranging figures in Kamasan paintings has traditional rules that must be followed by the painter. In the act of arrangement, it is governed by the *Tri Loka* and *Tri Angga* guidelines that place the position of each wayang figure based on a logical hierarchy. Animal figures, for example, in *Tri Loka* occupy the *Bwah* realm (lower realm), but are placed in the composition of the upper space to adjust. The positioning of nature in such exclusive areas of form marks the cultural attachment of traditional society to nature.

Table 2

The Visual Exclusivity of Natural Components

Key Aspect	Initial	Description	Detail Photograph
Visual	<i>Sato</i>	These are depictions of various animals such as tigers, horses, birds, dogs, monkeys, and elephants.	 <p>Figure 6. Berata et al, Sato, Menggambar Wayang Klasik Kamasan (2021). Institut Seni Indonesia Denpasar</p>
	<i>Taro</i>	Describing plants	 <p>Figure 7. Berata et al, Taro, Menggambar Wayang Klasik Kamasan (2021). Institut Seni Indonesia Denpasar</p>
	<i>Bebatuan</i>	Depiction of various elements of the earth, such as light, air, earth, and water	 <p>Figure 8. Berata et al, Bebatuan, Menggambar Wayang Klasik Kamasan (2021). Institut Seni Indonesia Denpasar</p>



The figures of nature's components are related to the Hindu belief system. The patterns reflect the existence of nature within the structure of the cosmos, which consists of the macrocosm (*bhuana agung*) and microcosm (*bhuana alit*). *Bhuana agung* includes all living and non-living entities on a large scale throughout the universe. *Bhuana alit*, on the other hand, reflects *bhuana agung* on a smaller scale, including humans, animals, and plants. These two realms are interconnected and influence each other in the cosmic order (Sucitra & Murtiningsih, 2020). In the context of THK, guidelines for harmonizing the concepts of *bhuana agung* and *bhuana alit* provide clear boundaries for people to behave towards the environment. This is articulated in the artistic process of Wayang Kamasan, where the connection between humans and nature is seen as part of the unity of the cosmos that animates and sustains all life.

Art can contribute to the conservation of nature in the face of the widespread impacts of climate change. Maintaining ecosystem balance is becoming increasingly challenging due to various complex global dynamics, including climate change. While humans naturally desire a better life, the chain of ecosystem damage is difficult to break. Examining the trajectory of art, where artistic practice incorporates nature, is a way of pursuing the essence of nature itself. Ecological destruction may leave only the animals in the painting, rendering it a historical artifact. The painting's depiction of animal figures, plants, and other natural elements prompts us to consider that they were once part of the real world and should not be reduced to mere visual representations. While the visualization of natural components is a traditional art form, it also serves as a reminder of the importance of preserving nature.

Painter's Ecological Expression

The ecological expression of the painters is another aspect of ecological wisdom depicted in Wayang Kamasan paintings. As a Hindu traditional art, there is a strong influence on the painters to incorporate every philosophical aspect of Hindu stories. Table 3 features two paintings by Mangku Muriati that were selected as participants in the BAF 2021 and 2023 exhibitions that have a major theme of environmental conservation. Figure 9, recounts a portion of the story of Mahadeva, who initiated the process of world creation by first creating forests or trees. Next, He created animals to protect the forest, and finally, humans. The painting's main theme aligns with BAF 2021's theme of *Wana Kerthi*, which glorifies the forest as a source of life. Figure 10 aligns with BAF 2023's main theme of *Segara Kerthi*, which glorifies the sea as a source of life. The inspiration for the turtle figure comes from the story of the screening of Mount Mandara Giri. However, the painter used the turtle as a symbol to represent the lack of respect for nature by humans. Through the use of Wayang Kamasan, the painter bridges aesthetic practices and emotions related to ecological issues.

Table 3*Ecological expression*

Key Aspect	Initial	Description	Detail Photograph
Expression	Wayang Kamasan painting	Title: Creation of the Universe	 <p>Figure 9. Mangku Muriati, 2021. Courtesy of Mangku Muriati</p>
	Wayang Kamasan painting	Title: Ocean Pollution	 <p>Figure 10. Mangku Muriati, 2023. Courtesy of Mangku Muriati</p>

The stories presented in this work have strong philosophical underpinnings that promote ecological awareness. They are closely connected to the traditions practiced by the Balinese people. For example, in Balinese mythology, the turtle symbolizes *bedawang nala*, which represents the support of the earth. Additionally, the Balinese celebrate *Tumpek Bubuh* to show respect for plants and *Tumpek Kandang* for animals. This can be seen as a movement that represses humans' ability to critically understand the importance of nature.

The Wayang Kamasan painters' tendency to connect their emotions and experiences with art highlights the significant role of art in expression. Neglecting our relationship with nature leads to environmental problems. Art, rather than a dogmatic approach, can gently capture the viewer's emotions and connect them to environmental issues. Similarly, the visualization of the is a figurative emanation of feelings as a rite of respect for nature (personal communication, August 10, 2023). In order to promote environmental awareness and combat the climate crisis, art appeals to the emotions of human beings to satisfy the desire for a harmonious relationship between nature and mankind.

Discussion

A series of art processes in Wayang Kamasan shows an art tradition that carries the values of ecological wisdom. As a cultural subject, ecological wisdom is what is maintained to embrace the values of ecological sustainability. In short, ecological wisdom is part of an artistic practice that not only produces commodity aesthetics but also ecological aesthetics as a form of concern for the environmental crisis. In the distribution of environmentally friendly materials (Table 1), it refers to the design of inheriting an environmentally friendly cultural identity. Regarding the visual exclusivity of natural components (Table 2) underlines the existence of conservative ecological wisdom that aims to form a sustainable system. Meanwhile, ecological expression (Table 3) explains the availability of creative space to combine aesthetics and dystopia in articulating the phenomenon of ecological destruction. This summarizes the potential of Wayang Kamasan's ecological wisdom as an essential critical reflective approach in building environmental wisdom.

Artistic practice with ecological values is not only based on common identity, but also on shared needs. Arts engagement can encourage harmony for all beings (*parahyangan*, *pawongan*, and *palemahan*) by facilitating transformative experiences that enhance the connectedness of humans and nature. Huhmarniemi (2021) argues that arts education can expand the reach of environmental awareness by working collaboratively with local communities. Traditional arts are part of an established culture that can contribute to sustainability. Wayang Kamasan, which has its roots in local knowledge, has both progressive and conservative functionalities. This kind of artistic practice uses aesthetics as a dialectical form of artists and their intentions to capture the emotions of the audience.

The proliferation of the dominant human-nature paradigm inspires transformative environmental education. In education, individuals are the objects to be given meaning; in art, art is a catalyst for the object to be able to self-reflect and promote alternative thinking about environmental systems (Molderez & Ceulemans, 2018). The inclusion of art in education, whether formal, informal, or non-formal, for climate change mitigation and adaptation efforts, serves not only to build scientific knowledge but also to cultivate wisdom in action. Atkinson (2002) highlights the power of visual practices in understanding the socio-cultural world and sees art as not just about the final product, but personal involvement shaping diverse and context-dependent experiences. This aligns with the views of Ki Hadjar Dewantara, an Indonesian educational figure, who believes that art's aesthetic expression serves as a cognitive tool and symbolic system for communication, preservation, and integration of actions. Art encourages reflection on reality, which is more accurate, comprehensive, and dynamic (Wilson et al., 2023) than that of individuals who do not appreciate art. The relationship between art and education can be a potent approach to healing and repairing fragile environments.

The potential of Wayang Kamasan with its ecological wisdom offers the development of locally-centered solutions that are more appropriate to local conditions and culture. This does not necessarily mean playing a significant role globally, but rather building a movement from the ground up to become more accepted and effective. Wayang Kamasan has enough space to build a web of visual imagery to capture emotions, shape experiences, and build fundamental values in understanding themselves and the world outside them, or in other words, art is a counter-image to the actual conditions in daily human life (Soetomo, 2003). Wayang Kamasan is not just an '*an sich*' art practice, but a deeper conceptual, philosophical, and intellectual approach that goes beyond its direct physical manifestation. The aesthetics resulting from the artistic practice of the painters has the power to disconnect the material reality of everyday life in anticipation of worse damage in the future.

As a traditional art form, Wayang Kamasan faces challenges to its existence as a result of the long-term effects of climate change. The economic, social, cultural, and political life patterns of the community are intertwined to form a high barrier that indirectly affects the ecological balance. It gets worse when education in the context of climate change stops at the cognitive aspect without engaging their emotions. This necessitates traditional forms of collaboration to build wisdom of action. Rooted back in traditional wisdom, local communities seek to ensure the formation of stronger and wider community networks as mutually beneficial relationships between the various parties involved. In other words, the artistic practice of local communities can be an effective and innovative strategy for climate change mitigation and adaptation, which also means supporting the sustainability of the ecological wisdom aspects of Wayang Kamasan, especially in the distribution chain of environmentally friendly materials. Bringing Wayang Kamasan into the agenda of Bali's local government is a strategic effort from its potential, but it needs to consider more intense steps due to the annual nature of the event.

Facing the ever-increasing dangers of climate change provides the backdrop for revisiting the ecological wisdom of traditional arts held by local communities. The wisdom behind local culture has inspired the importance of transformative environmental education (Foster et al., 2018) to encourage further learning rooted in this local knowledge. The ecological wisdom of artistic practice becomes a bridge to reflect on the relationship between humans and nature. Artistic communities retain their traditional artistic practices to mark their cultural identity and emphasize the importance of nature. Balancing the production of commodity aesthetics with ecological aesthetics, artistic practices play an important role in exercising emotions that enhance spiritual experiences. The effectiveness of emotional intentions in improving the human-nature relationship is often underestimated. However, addressing the external complexities such as economic, social, cultural, and political factors is crucial for their success in tackling climate change.

Conclusion

Ecological wisdom from traditional arts collaborated in climate change learning emphasizes transformative environmental education. Progressive and conservative arts through traditional community movements follow context-based learning strategies that are more appropriate to local conditions and culture. Reflective moments when aesthetic experience and self-reflection work together bring a more dynamic desire from individuals to achieve their need for an ideal world. This reflective process contains an emancipatory process to draw the consciousness of individuals (both as subjects and objects of art) to the belief that continued civilization is a logical consequence of a living environment.

The Wayang Kamasan traditional art community embraces nature as a partner. The human-nature relationship is considered equal and equally contributes to culture. The shift in the way humans view nature in a dominative way has led to an imbalance in the deteriorating condition of nature. Traditional communities are taking up the networking movement below to create more learning spaces that build environmental awareness. The ecological wisdom of traditional art that they introduce leads art lovers to walk into a classroom that is completely different from the conventional classroom, as art can ultimately execute a learning approach that is not limited to one place and object of participants. The movement from local to global by involving more contributors from the community of arts and traditions needs to be considered to create equal meaning between humans and nature.

Exploration of the ecological wisdom of Wayang Kamasan to study its relevance in climate change education certainly requires further research. Knowledge of the wisdom behind Wayang Kamasan may lead to a broader field, beyond the context of ecology, or continue to more specific system thinking in the field related to certain educational institutions in the future.

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