



Ecotheology: environmental ethical view in water spring protection

Ali Maksum^{1,*}, Abdul Rachman Sopyan², Agus Indiyanto³, Esa Nur Wahyuni⁴

¹Department of Sociology, Faculty of Social and Political Sciences, Brawijaya University, Malang 65145, Indonesia

²Faculty of Social and Political Sciences, Brawijaya University, Malang 65145, Indonesia

³Anthropology Department, Gadjah Mada University, Yogyakarta 55281, Indonesia

⁴Faculty of Tarbiya and Teacher Training, UIN Maulana Malik Ibrahim, Malang 65149, Indonesia

ABSTRACT: Ecotheology involves the fundamental awareness of local communities and their social solidarity to protect the sustainability of nature. Therefore, it is critical to address problems in nature caused by increasing tourism industry development. This article discusses social movements sparked by religious and critical awareness of the development issue in conservation zones. We conducted a qualitative participatory interview with 9 key actors in Batu, Indonesia, using an ecotheological approach. Group discussions were held with the participants during demonstrations, festivals, and cultural rituals. This research found that individuals who rely for their daily needs only on water springs have significant connections to ecological and spiritual values, and they resist with their cultural capital when the government's actions threaten the sustainability of the springs. Environmental ethics as a theological belief has shaped the community's traditions and cultural traits. Thus, the current study serves as the basis for policymakers in planning development, prioritizing a cultural approach, and considering the possibility of environmental degradation.

KEY WORDS: Social movement · Ecological ethics · Social resistance · Developmentalism

1. INTRODUCTION

Tourism development often results in major environmental concerns, particularly regarding water sources and supplies. Poor regional development goals that place an excessive focus on tourism and the mainstreaming of land conversion have resulted in a water-scarcity issue. Water shortages will continue to worsen in Java, Bali, and Nusa Tenggara until 2030, with the percentage of critical regions growing from 6.0% in 2000 to 9.6% in 2045 (PPN/Bappenas 2019). East Java WALHI (Indonesian Friends of the Earth) revealed that 111 springs in Batu City have deteriorated in quality, and 60 others are threatened with extinction (Ainun 2013). These springs serve 6 villages with over 1500 families

(Apriando 2013). A cultural approach with its social movement impact can be a good alternative for the local community members who have limited access to structural authority to save their springs.

Thus far, research on spring conservation globally has tended to concentrate on 3 primary issues: management and use of the springs (Cosgrove & Loucks 2015, Hidayati 2017), conflicts over the use of springs (Trisnawati 2012, Jocom et al. 2016, Hakim et al. 2017, Handayani et al. 2018), and the social movement to maintain the preservation of springs (Barthel & Isendahl 2013, Newton et al. 2014). These 3 tendencies demonstrate the power of a structural viewpoint in addressing the problem of spring usage and preservation while neglecting the cultural perspective of water-spring management. The constraints of

*Corresponding author: alimaksum@ub.ac.id

the study of social movements, collective awareness of environmental conservation, and cultural community empowerment models may be addressed by considering the ecotheological viewpoint in this work. Ecotheology may serve as a lens to examine the present socio-ecological movements.

This article underlines the critical nature of an ecotheological approach to spring conservation. Based on the idea that water has functional, economic, and cultural importance (Barthel & Isendahl 2013, Newton et al. 2014), this research aims to address 3 major issues: (1) How do local communities see water and water springs? (2) How might water be used as cultural capital in building a social movement to preserve the springs? (3) How can local communities use their ideas about water springs to aid in environmental conservation? The answers to these questions enable a more in-depth understanding of what it means to conserve water resources. Furthermore, this information enables a more contextualized and diverse understanding of environmental ethics to be used when examining environmental challenges.

2. LITERATURE REVIEW

2.1. Ecotheology

Ecotheology acknowledges the preservation of nature as a necessary component of human life and the urge to act based on the environment and other organisms, not just humans themselves (Ayre 2021). Religious engagement is critical in ecotheology (Kirkpatrick-Jung & Riches 2020), where the concept examines the link between religion and nature regarding contemporary ecological problems (Bock 2016). Ecotheology is concerned with spiritual aspects that can potentially impact the future. The religious perspective on the environment allows for the deactivation or activation of environmental conservation in various contexts (Luetz & Leo 2021). Similarly, religion and nature are reflected concurrently in human and environmental activities, which are influenced by feedback patterns determined by the presence, distribution, and assemblage of existing creatures (Hitzhusen 2007, Clough 2013). The above point depicts the idea of unity between individuals and the entire cosmos of life, which demonstrates constructive ecological theology (Mpofu 2021).

Ecotheology synthesizes belief systems, ways of life, and attempts to preserve nature and social ecosystems. The springs serve as a conduit for the community's belief system in environmental sustainability,

reflected in environmental conservation. There are 3 fundamental arguments to consider regarding water in this case. First, water is a critical component to support life and has spiritual significance. Second, this knowledge is ingrained in the cosmology of all locals, providing a solid basis to conserve the water springs. Third, ecotheological understanding may serve as long-term cultural capital to preserve the water springs. Each stakeholder participating in attempts to preserve the springs has different definitions of water. Attachment to water provides the foundation for policy responses. The campaign to conserve the springs demonstrates the involvement of civil society in policymaking. Simultaneously, ecotheology contributes to spring protection by entrenching communal cooperation in protecting the water springs. The ecotheology inherent in the life of the community around the spring serves as a socially reinforcing force.

Ecotheology comprises 4 critical components: first, the source of ultimate value and meaning; second, the method for comprehending reality; third, inner awareness; and fourth, personal integration (Sponsell 2007, Leese 2018). Ecotheology was developed out of these components in response to environmental crises. Ecotheology reflects the trend of human consumerism, which causes excessive exploitation of natural resources and disharmony between humans and the environment (Sideris 2009, Howell 2021). One example of an environmental problem is major deforestation in many regions of the globe, reducing the extent of forested areas and extinguishing wildlife (Ottuh 2020). The issue is inextricably linked to the pattern of human perceptions of nature.

Additionally, ecotheology has 3 critical facets. First, it covers the elements that contribute to environmental degradation due to economic expansion, and influence the exploitation of natural resources, such as land pollution, water pollution, and population issues. Second, ecotheology discusses the problems of ecology and environment among theological themes and guides, including the unique role of humans in nature and anthropological theology. Third, an ecotheological approach is anthropocentric, ecocentric, and theocentric in orientation (Körtner 2016). These components and characteristics are based on religion and are represented by abstract rules governing human viewpoints and empirical rules (Grygiel 2020).

2.2. Environmental ethics

Environmental ethics as an academic field developed out of philosophers' dissatisfaction with an-

thropocentrism, where environmental ethics combine problems through the perspective of power dynamics that challenge dominance (Hourdequin 2021). Additionally, environmental ethics are considered to provide solutions to ethical problems encountered in an ecological context (Valera et al. 2020). On the other hand, environmental ethics concern human behavior related to the environment (Yuono 2019), reflecting moral principles applicable to individuals and the environment (Humaida 2019). Similarly, Adi (2020) defined environmental ethics as the balance between people and nature. However, environmental ethics focus on human conduct in connection to the environment and the link between existence of the whole universe and the interconnected ecosystems of life. Accordingly, environmental ethics serve as a guide for applying principles and regulations and analyzing, deliberating, and resolving environmental and social conflicts (Urzúa & Gaete 2018). Furthermore, environmental ethics are moral principles that guide policy development and the development of environmentally friendly actions (Pedersen 2000).

Eight principles are relevant when applying environmental ethics: (1) fairness, which highlights how people act appropriately concerning the universe and the system that must be governed to ensure environmental sustainability (Rolston 2011, Palmer et al. 2014), (2) democracy in formulating policies concerning the environment and its protection (Mason 1999, McKinney & Kemmis 2011, Eckersley 2020), (3) moral integration, by prioritizing the interests of natural resources (Nasibulina 2015, Jordan & Kristjánsson 2017, Shutaleva et al. 2020), (4) no harm and being in harmony with nature (Sukmawan & Nurmansyah 2012, Prior 2016, Sovacool et al. 2017), (5) respect for nature (Turner 2012, Utomo 2018), (6) responsibility (Kopnina 2012, Utomo 2018), (7) cosmic solidarity (Ariwidodo 2014, Faizah 2020), and (8) compassion and caring (Ramp & Bekoff 2015). The application of environmental ethics is demonstrated in preserving natural resources through managing natural resources, managing waste, and restoring ecology (Cafaro 2015, Dzwonkowska 2018, Landres et al. 2020).

2.3. Water resource management

Water resource management involves planning, developing, distributing, and managing water to use it optimally (Cosgrove & Loucks 2015, Hidayati 2017). In our study, water resource management is more concerned with aspects of water management and

allocation on an equal basis so that its sustainability and quality can be maintained and benefit the community. Water resource management emphasizes numerous important concepts, including conservation, utilization, control, water quality management, application of suitable technologies, and exploitation of a circular system (Sallata 2015, Ashrafi et al. 2022, Zhang et al. 2022). Additionally, the community in our study requires several other concepts for water resource management, including environmental protection, prioritizing agricultural needs, community welfare, and justice (Perreault 2014, Schnegg & Kiaka 2018). Water management is important because water is a basic need to sustain life (Sallata 2015), and its presence affects social, environmental, and economic functions (Barthel & Isendahl 2013, Newton et al. 2014). However, water management has several challenges, including mismatches between needs and resources, threats to resource sustainability, and insufficient coordination and institutional capacity for water management (Chandranegara 2016, Moerad & Susilowati 2016, Mompremier et al. 2022).

The management of water resources in Indonesia is a complex problem due to the growing population and high economic activities (e.g. tourism and industry), resulting in a lack of coordination in managing water resources. As a result, many conflicts and crises have emerged due to water resource management (Trisnawati 2012, Jocom et al. 2016, Hakim et al. 2017, Handayani et al. 2018). The local community has attempted to resolve disagreements and problems in water resource management (Arif et al. 2013, Landriany 2014, Suratin et al. 2019). Some parties empower communities in and around the forest to raise awareness of the forest's water resources and farmer groups via reforestation initiatives, strengthening water resource management rules to provide strong penalties for violation of water use and extractivism by planting vegetation and initiating conservation projects (Permanasari et al. 2018). As a result, the success of many of these initiatives and discussions must be taken into account while conserving and managing water supplies (Permatasari 2017).

2.4. Social movement

Historically, activism has been associated with collective action for social change as a type of active civic and political participation. Kassimir (2006) discussed several types of activism, including rallies, protests, strikes, advocacy for institutional policy

changes, and initiatives to increase public awareness about issues of concern (Angelina 2015). Organizing a social movement is a frequent method of activism. Social movements are intended to bring change or to oppose the status quo. Social movements in sociology are often related to collective, collaborative action that purposefully forms a crowd. According to Tilly (2004, p. 4):

'[S]ocial movement can be seen as a series of contentious performances, displays, and campaign by which ordinary people make collective claims on other... [S]ocial movements are a major vehicle for ordinary people's participation in public politics.'

A social movement can be defined as a series of contentious and polarizing campaigns that are used to make a collective claim about ideal condition on society. The collective action serves as a vehicle for the community to participate in politics. Meanwhile, Jary & Jary (1995) defined a social movement as a social action where individuals band together to instigate or obstruct social change.

Oberschall (1994) proposed a resource mobilization theory that concerns the social dynamics that promote emergence and success. This theory postulates that a group mobilizes due to its existing communication network, the presence of people with established leadership, and the historical engagement of the organization members. According to the resource mobilization theory, social movement is organized around shared ideals, community sentiments, action standards, and organizational structure. Next, leaders and leadership are characterized as strategic decision-makers who motivate and organize others to participate, and leadership can influence a group via goal achievement. Third, there are 5 distinct categories of resources and mobilization of resources: moral, cultural, social organization, human, and material resources. Fourth is networking and involvement; social networks are the deciding factors for most members of diverse organizations. The fifth concept involves community capabilities and alludes to the capacity of local communities for collective action.

3. METHODOLOGY

This study investigated the ecotheology of Bulukerto villagers in Batu, Indonesia. Bulukerto village comprises 8 hamlets: Cangar, Genting, Kliran, Buludeng, Rekanan Lor, Rekanan Kidul, Gemulo, and Gintung. This community experienced horizontal conflict, and ecotheology is significant in this research because the sensitivity to springs that develops in the

community is not only a problem, but also a reflection of the community's belief system. Ecotheology gains momentum as the community confronts a case of proposed development in the neighborhood of the springs. A qualitative research technique was utilized to fully understand social processes. The observations were participatory, with researchers immersed in the field and participating in ceremonial rituals carried out by the community members who care about the springs. In addition, the researchers participated in the social and solidarity activities organized by the Umbul Gemulo community. The 9 informants (mostly adult males) were chosen based on their involvement in preserving, interpreting, and conserving water sources, both collectively and individually. They included A.R.S. (Chairman of Nawakalam), S.N.R.D.I. (villager), S.N.R.T. (Head of HIPPAM), S.M.R.T.N. (Cangar village elder), O.M. (Chairman of East Java WALHI), M.T. (village elder and respectable/holy person), I.N.D.R. (Nawakalam activist), W.E. (member of East Java WALHI), and A.T. (member of Malang Corruption Watch). We tried to include female informants, but they did not have availability.

Data collection began with a literature review to identify ecotheological problems, followed by field observations. We undertook a literature search in the following way. Written materials pertinent to this study, i.e. books, periodicals with ecotheological themes, social movements, articles, and records related to the community movement caring for springs, were collected to deepen the analysis and reinforce the evidence. We then met with prominent people in the community movement, moving on to additional actors. Specifically, we used the snowball method to obtain suggestions from important informants, who then nominated more informants thought to play a vital role in the movement. This approach ensures that the data acquired are comprehensive enough to describe the actions of individuals who care about the springs.

Our data were gathered using multiple sources or methods to draw generalizations. First, we looked at the individuals engaged on a micro level, then interviewed them and asked them to explain their points of view. Next, we considered the community movement network to mobilize existing human resources at the meso level. Among the community movement's nodes and strategic alliances involved are Indonesian Friends of the Earth (WALHI), Malang Corruption Watch (MCW), Surabaya Legal Aid (LBH) Surabaya, Consortium for Agrarian Reform (KPA), Green Christian, and Front Nahdliyin for Sovereignty of Natural Resources (FNKSDA).

4. RESULTS

In-depth field investigations revealed 3 interconnected and supporting pieces of evidence: first, the community's collective contemplation about the theological meaning of water springs (the community's process of assigning meaning to springs); second, the community's efforts to keep the springs in good shape; and third, the function of ecotheology in the preservation of springs.

4.1. The meaning of springs

Water has several meanings for locals, including both material and spiritual meanings. For Bulukerto villagers, springs entail a valuable history, so their sustainability must be preserved for future generations. A.R.S. (a 35 yr old informant) constantly used the term 'springs for children and grandchildren' when questioned why the Umbul Gemulo spring should not be harmed during a development project. According to WALHI data collected by the People for Water Forum (FMPMA), over 65 % of springs in Batu City are located on land and in critical or extremely severe condition. According to FMPMA data, 57 springs (53 %) were in a critical situation, 15 (14 %) were in extremely critical condition, 4 (4 %) were in good condition, and as many as 32 springs (29 %) were in normal circumstances (Apriando 2013). The problem of spring destruction poses a major danger to everyone who relies on them.

Farmers, cultivators, ranchers, and communities around Umbul Gemulo spring rely on the spring water supply for their cooking, irrigation, and livestock needs. A.R.S. emphasized that:

'Here nobody could make a well. One person tried to dig a 100 meter well in the past, but there was no water.'

This statement is reinforced by the argument of informant S.M.R.T.N. (61 yr old village elder), who argued that:

'Bulukerto inhabitants, most of whom work in agriculture, rely on Umbul Gemulo spring for agricultural irrigation. The community's survival is contingent upon the spring's continued existence. Additionally, several Umbul Gemulo springs are the area's sole water source, particularly in Cangar hamlet. Thus, if the source dies or is damaged, people's lives will become more difficult, and agricultural harvests would diminish or perhaps cease to exist. People have attempted to dig wells, but there is no water.'

The villagers consider the importance of environmental protection and the long-term sustainability of

the spring ecosystem using their indigenous knowledge. A.R.S. believed that maintaining indigenous knowledge is a way of 'knocking on heaven's door' to ensure that blessings continue to flow via water as a mediator. S.N.R.T. (40 yr old informant) added that:

'As God's creation, Umbul Gemulo water spring has a life of its own. Therefore, through this salvation ceremony, we hoped that Umbul Gemulo spring will keep producing water to supply all communities' needs.'

Environmental ethics and indigenous knowledge are also expressed in daily life and existence. For example, A.R.S. stated that:

'... Since they were born, they [the Javanese] have been educated to grow closer to nature as an illustration of the "down to earth" tradition. And it endured. Javanese people (also) observe "brokohan" [ceremony held after a baby's birth] to demonstrate their appreciation for environmental values. Additionally, they are introduced to "pitanan," a practice in which parents accompany their 7-month-old infant to the river. Those are some of the efforts being made to introduce [nature] to the future generation, that you will need lands and water...'

The community's reliance on water supplies is reflected in the function and use of water in everyday life. Water cannot be viewed as a gift from God or a natural resource without preserving it. Thus, the local community's water supply must be maintained.

4.2. Ecotheology as cultural capital

Environmental preservation, conservation, and management are efforts to recognize and enhance the value and quality of living things naturally and sustainably. Environmental management is practiced in a variety of ways in Indonesia. Indonesians, with their different cultures, have traditions, values, and beliefs based on their indigenous knowledge ('local genius'). Particular 'local genius' is a positive habit practiced alone or in groups in certain regions locally. Local wisdom associated with natural resource management refers to a local arrangement that has persisted for a long time and has adapted. S.M.R.T.N. indicated that:

'Spring water is critical to our livelihood and must be conserved at all costs. It also serves as the lifeblood for thousands of inhabitants in Bulukerto Village and six neighboring villages, including Sidomulyo, Bumiaji, Pandanrejo, Sisir, Mojorejo, and Pendem.'

Bulukerto's inhabitants embody ecotheological principles via 3 ritual activities: 'selamatan sumber' (spring salvation ceremony), 'selamatan dusun' (village salvation ceremony), and 'festival mata air'

(water spring festival). S.M.R.T.N. stated that villagers performed these rituals once a year. 'Selamatan desa' (village ceremony) is conducted in Ruwah (the month before the fasting month), and 'Barikan' (hamlet ceremony) is carried out in Suro, the first Islamic month. 'We also have selamatan sumber [spring ceremony] and spring festival every World Water Day, March 22,' he stated. These rituals have been carried out systematically from generation to generation for a long period, as part of the villagers' commitment to safeguarding their water supply. People also believe that because of this salvation ceremony, Umbul Gemulo spring will continue to produce more water, benefiting farmers in the village. The 'Barikan' ceremony promotes unity and affinity between humans, nature, and God.

'Selamatan' is a sort of ecological knowledge for Bulukerto villagers. Collectively, all community members possess and share ecological wisdom. This ecological wisdom is transmitted and disseminated across generations using various media, including the native language. The Umbul Gemulo spring becomes a value that binds Bulukerto villagers together. The salvation ceremony is intended to pray to God to ensure that Umbul Gemulo spring is preserved and continues to serve the villagers' water needs. Following the salvation ceremony, Elder M.T. delivered a short speech and addressed the importance of this spring for the livelihoods of many people. S.N.R.T., a salvation participant, said:

'As God's creation, this Umbul Gemulo spring likewise has a life of its own. As a result of this salvation ritual, water continues to flow from Umbul Gemulo water source to fulfill all people's needs.'

Water from the Umbul Gemulo spring is utilized to irrigate rice fields and supply the people's water needs. Therefore, the decreasing water level of Umbul Gemulo will impact the drinking water supply of 3 villages. S.N.R.T. also commented:

'By conducting the salvation ceremony, it is hoped that Umbul Gemulo spring will keep producing pure water supply for all people.'

The community acknowledges that culture is man-made and produced by society; nevertheless, the value philosophy that the Umbul Gemulo community utilizes to protect the environment is to cultivate gratitude for God's grace, ensuring that the ethical values that the community builds become a way of life, and involves having a comprehension of moral principles. Thus, it is not culture that shapes people's views in environmental ethics, but environmental ethics as a theological concept that determines people's beliefs in their traditions. The significance of

water for human civilization has been entwined with formal religious beliefs and the prevailing way of life. 'Manunggaling' (union) between humans, belief systems, and springs serves as the cultural capital of the hamlet community as it navigates through development and tourism policies, and ecotheology becomes the cultural capital as the village community confronts the problems of policy change. Water is considered God's grace, and its preservation can be seen as an endeavor to safeguard God's creatures and demonstrates the village community's commitment to its life ideals.

4.5. When springs meet development

Since the occupation by the Vereenigde Oostindische Compagnie (VOC) in 1767, Batu City has been a destination for foreigners due to its natural beauty and pleasant weather. From 1920 to 1928, this area's construction and modernization were accelerated in order to provide a resting place. Since the year 2000, a number of historic structures and artifacts from the colonial period have been used as tourist attractions in the surrounding area. This decade saw the development of larger facilities, such as hotels, villas, cottages, and guest houses. According to field data, the number of hotel developments is increasing. In 2013, the number of hotels was 476; in 2014, it grew to 500 (Nugroho 2020). However, the scale of tourism development is out of sync with the natural environment. According to the official website (<https://walhijatim.org/2016/01/04/kasus-umbul-gemulo/>) of WALHI East Java, about 111 springs in Batu City have witnessed a reduction in quality and decline since 2005. Between 2012 and 2014, there were 57 springs in Bumiaji District; today there are only 28; 32 water sources in Batu District are down to 15 locations; and 22 springs in Junrejo District are down to 15 locations.

To ensure the long-term sustainability of the springs, Bulukerto villagers established the Forum Masyarakat Peduli Mata Air (FMPMA; an organization concerned with water springs) to protect the Umbul Gemulo spring from hotel developments. For example, the Rayja Hotel was planned to be developed 200 m from the water source. According to FMPMA representatives, the hotel development would damage the spring.

The community's efforts to address the threat of the Rayja Hotel construction was strengthened through the collaboration of 3 village leaders (from the villages of Bulukerto, Sidomulyo, and Bumiaji) and the involvement of non-governmental organizations (Pu-

saka Foundation, Brantas Conservation, MCW, and WALHI). In addition, a study by Amiruddin (2016) confirmed that the FMPMA was established to oppose construction of the Rayja Hotel.

According to WALHI's findings, there was an issue with the Rayja Hotel's building permit (ijin mendirikan bangunan, IMB). There is proof of administrative malfeasance that an unauthorized entity signed the permit. Additionally, there is evidence of letter fraud and environmental crimes. Permits were granted without environment-related documentation. The Rayja's construction site violated Regional Regulation No. 7/2011 on spatial and regional planning (rencana tata ruang wilayah, RTRW). The hotel construction site is situated inside an environmental protection area not authorized for commercial development, barely 150 m from the Gemulo water source. This circumstance violates Government Regulation No. 38/2011 and Presidential Decree No. 32/1990. The law stipulates that the minimum distance of construction sites must be 200 m from a water source. These regulatory infractions caused FMPMA to increase its concerns at the level of policy monitoring.

The community also rejected the construction of the Rayja Hotel due to a communication problem. The hotel developer only informed parties supporting hotel growth and physically unaffected by the development. On the other hand, the community believes that the hotel's development will greatly influence culture and unity of these 6 villages. The spring binds ties and unifies the 6 villages over time. The village representatives commented on the impact of hotel development on the loss of cultural values and the deterioration of environments.

The dispute over the Umbul Gemulo spring in Batu City, East Java, began in 2002 when the local administration attempted to coopt the spring's water supply or trade with a bottled water company. According to S.N.R.D.I., the Umbul Gemulo spring is both conveniently accessed and situated in a strategic location. However, many parties, particularly the private sector, seek to extract the water for their purposes, even though people's lives depend on the springs. According to a Cangar resident (Riski 2014):

'In terms of water, we rely entirely on the Umbul Gemulo spring. From daily needs to irrigation purposes, livestock, and plantations, we rely too heavily on the Umbul Gemulo spring.'

The water flowing from springs continued to decrease in 2009, and tests revealed that numerous springs contained *E. coli* bacteria. This circumstance arises when the rate of nature conservation is not proportional to the amount of harm that takes place

in the natural world. The brunt of the deterioration began with the change of land use of conversion areas and agricultural land, which gradually degraded the land state. Only Mahardika, the executive director of the East Java Walhi, noted that only 6 springs in Batu City are categorized as good with a moderately significant water flow, of which 5 are located in the Bumiaji District and 1 in the Batu District. Data from the National WALHI, prepared by the FMPMA, show that more than 65% of the springs in Batu City are located on either critically damaged or very critically damaged terrain. According to FMPMA data, 53% of springs (57 locations) are in critical areas, 14% highly critical (15 locations), 4% sound (4 locations), and up to 29% (32 locations) in normal conditions (Apriando 2013a).

Residents protested in late 2011 over Panggon Sarkarya Sukses Mandiri's (PSSM; private company, PT.) plan to develop the Rayja Hotel near a crucial spring. The locals eventually became agitated and decided to oppose the policy when it became clear that the construction of the hotel on the side of the spring would be subject to a number of regulations and laws. Following the escalation of this condition, a significant mass movement emerged in opposition to the policy. Taking into account the Gemulo Batu Springs Area, which has provided several villages in Batu city with a source of income in the form of clean water, these villages include Gunungsari, Punten, Bumiaji, and Bulukerto (all located in the Bumiaji District), as well as Sidomulyo and Pandanrejo (Batu District). Surya Daily reported that 5000 Batu City residents demonstrated on May 1 (Surya.co.id. 2012). Locals also held demonstrations against the construction of the hotel. They marched to the Bumiaji sub-district office and decided not to let The Rayja Hotel be built on Jl Raya Punten because it would be too close to the Umbul Gemulo spring. Initially, over 1000 people attended the demonstration. In addition, dozens of different demonstrations attended by a large number of people were held. The intention was to raise objections to the construction while also pleading that hotel development not be tolerated in the vicinity of the water supply.

Furthermore, during another protest on 31 January 2013, approximately 300 Batu City residents occupied the planned construction site of the Rayja Hotel in Jalan Raya Punten, Bumiaji District. Locals restricted the hotel building site. The authorities of Batu City did not respond satisfactorily to the people's reluctance to permit the construction of a hotel. Four locals from Bulukerto, Batu City, were listed as suspects on allegations of breaching Articles 310,

353, and 315 of the Criminal Code due to their conduct in 2012 and the beginning of 2013. These 4 locals, Imam Yunanto, Kaji Rudi, Arif Nugroho, and Wagiman, were accused of misconduct and threatened with negative repercussions (Apriando, 2013b). In response to local resistance, the Rayja Hotel developers have criminalized the locals by submitting false reports of vandalism and theft of construction supplies. The Rayja party also launched a Rp 30 billion legal complaint against Kaji Rudi, one of the FMPMA representatives. Rudi was charged with breaking the law through provocation and intimidation, as well as organizing protests and mailing letters which resulted in the Rayja Hotel's construction activities being interrupted (Riski 2014). A.R.S. stated:

'In essence, we are not scholars capable of organizing things formally. We are regular folks who came unexpectedly in connection with Umbul Gemulo case. It is nature's call which still apply and we cannot request or decline. I am not sure when the fight will resurface, but I am certain it will be, even if it may not be us. Many unique figures join Umbul Gemulo Movement.'

This situation prompted the community to mobilize internally via the long-established Himpunan Penduduk Pemakai Air Minum (Association of Drinking Water Users; HIPPAM), which operates and acts to address irrigation issues arising from the usage of existing springs. HIPPAM spearheaded the campaign in Bumiaji and Bulukerto against the development of the Rayja Hotel. This move is reasonable, since HIPPAM managers can instantly learn whether the water supplies they administer are in danger due to hotel construction. In December 2011, the community established Aliansi Masyarakat Peduli Sumber Umbul Gemulo (AMPSU), an organization concerned with the Umbul Gemulo spring.

5. DISCUSSION

Companies and industrial facilities cannot produce water; they can only control the water purity, packaging, and distribution. This fact fosters the community's beliefs about irreproducibility of water as a priceless legacy for future generations. Those beliefs are the key causes of resistance to hotel construction. Waves of rejection will occur whenever an effort is made to disrupt the legacy for future generations. In theory, clear and pure water should be utilized by both the current and future generations. The spring is materially, culturally, and spiritually important for the community since it is irreplaceable. On a material level, water enables farmers to meet their household

needs. Meanwhile, water culturally and spiritually ties the relationship between humans and God. This view validates assertions by Kirkpatrick-Jung & Riches (2020) that ecotheology and the interdependent relationship with religion are crucial.

Beyond the fundamental necessities, we can see a fusion of water, society, and belief system components. Ecotheology becomes an ethical value in environmental protection and may develop into cosmological consciousness for the village community (Sponsell 2007, Leese 2018) since each of the 3 components cannot be separated or subjugated; they are indivisible. Through this view, ecotheology promotes environmental awareness and spring protection. This consciousness then expands to the point where it can develop public awareness in every exploration and exploitation of water resources conducted under government rules. The community's ecotheological organic awareness may promote solidarity and attachment as its cultural capital during difficult times; for example, when the water supply decreases. Sponsell (2007) and Leese (2018) suggested that the essential factor of ecotheology refers to the source of the greatest value and meaning, where the source of ecotheological value is in the religious value and the source of the highest meaning is in the way of life. Second, ecotheology serves as a lens through which the Umbul Gemulo community may comprehend its current problem: that the community's need for water motivates them to preserve it. Third, each individual's inner awareness continually maintains the water supply and its preservation process. Finally, God and nature become closely interlinked (Sponsell 2007, Leese 2018).

To assist administrative and procedural activities, institutions and organizations are required. At least 3 critical components contribute to the ability of environmental movements to fulfill their missions. The first component involves organized or voluntary environmental movements, which in Indonesia include organizations such as the Sierra Club, Green Peace, and WALHI. The second one is the public environmental movement, a community-based public movement where individuals show their opposition to or support for certain ecosystems, lifestyles, and flora and fauna via their attitudes, everyday actions, and words. The next component is government-sponsored environmental movements, government-established institutions, or institutional environmental movements (Aditjondro 2003). The components that operate in the context of Bulukerto community are organized public environmental movements. Individual awareness and collective consciousness motivate the village community's defense of the springs.

Community awareness, Rayja Hotel construction, and pipeline programs successfully incorporated communities that rely on the water springs to reject tourism expansion in their conservation zones. Demonstrations and hearings contribute to the community's understanding of environmental conservation and dedication to safeguard their farms, rice fields, livestock, and household needs from possible water supply problems.

Theological considerations lead the cultural traits in the struggle to protect springs. Since the community's environmental consciousness is a consequence of conserving God's blessings and graces through springs, the spring conveys the community's belief system in the ecosystem's viability. Moreover, this belief system is embodied in the attempt to protect both the environment and the springs. It is founded on 3 fundamental arguments. First, water has spiritual importance and is a necessary component of existence. Second, this knowledge is embedded in the cosmology of all locals, leading it to serve as a firm foundation of belief in efforts to preserve springs. Third, ecotheological knowledge can be utilized as cultural capital in a purposeful endeavor to sustain springs. Every stakeholder engaged in attempts to maintain the springs' ecology has attributed a particular meaning to water. The importance of water in people's lives is reflected in the policy solutions developed around this fact. The struggle to safeguard the springs is evidence of civil society's involvement in policy. At the same time, ecotheology contributes to the preservation of springs and integrates communal solidarity into the process.

The ecotheology ingrained in the way of life of the community that revolves around the springs serves as a practical social component that can be strengthened through its various meanings. Thus, resistance to all dangers that lead to the destruction of springs results from the community's ecotheological awareness.

6. CONCLUSION

The study found that the community's process of giving meaning, cultural capital, and social movements is inseparable and consciously linked. The study shows that ecotheology as an ideational approach can develop a critical and constructive viewpoint for society and become a vital part of movements against hotel and pipeline construction plans. Ecotheology considerably impacts the long-term sustainability of nature conservation.

This research underlines the crucial function of an ecotheological approach to spring conservation. The approach offers the potential to connect the village community's cosmological consciousness and the community's critical awareness that has consequences for environmental preservation and spring sustainability. Thus, the ecotheological approach protects the community's memory of springs and adds the perspective of the unity of humans, nature, and God as a whole.

We acknowledge that this study has limitations in various areas, including lack of diversity among the informants and the small sample size ($n = 9$ respondents). Most of the informants were adult males, so the voices of women and younger generations were mostly absent, as was the case with the social status of the informants, who were typically activists and community leaders. We recognize that this has impacted the activists' skewed ideas to a greater or lesser extent. In addition, this research may not fully represent the opinions of ordinary people (e.g. smallholder farmers and livestock owners) and other companies that rely on spring water supply. Therefore, a follow-up study with women, children, and small-scale farmers is essential to get a complete picture of ecotheological relationships and spring water conservation.

Acknowledgements. We thank the IA Scholar Foundation for their support and guidance, and all of the informants who supplied information. The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency. All data collection and analysis processes followed all required ethical procedures and considerations.

LITERATURE CITED

- ✦ Adi A (2020) Etika lingkungan dalam gaguritan kabresihan. *Dharma Duta* 17:50–59
- Aditjondro GJ (2003) Patterns of the environmental movement: reflections on saving the environment from capital expansion. *Pustaka Pelajar, Yogyakarta*
- ✦ Afroz R, Masud MM, Akhtar R, Duasa JB (2014) Water pollution: challenges and future direction for water resource management policies in Malaysia. *Environ Urban Asia* 5: 63–81
- ✦ Ainun Y (2013) 60 Sumber mata air di kota batu raib. <https://regional.kompas.com/read/2013/04/02/16011668/~Regional~Jawa>
- Amiruddin L (2016) Gerakan penolakan pembangunan hotel di sekitar sumber mata air. Tulisan ini dipresentasikan dalam acara Konferensi Nasional Sosiologi V dengan tema Gerakan Sosial dan Kebangkitan Bangsa, oleh Asosiasi Program Studi Sosiologi Indonesia (APSSI), 17–19 May 2016, di Padang, Sumatra Barat

- Angelina M (2015) Digital natives' alternative approach to social change. In: Shah N, Sneha PP, Chattapadhyay S (eds) *Digital activism in Asia reader*. Meson Press, Lüneburg, p 37–53
- ✦ Apriando T (2013a) Pembangunan resort dinilaiancam sumber air kota batu. *Mongabay.Co.Id*. <https://www.mongabay.co.id/2013/10/14/pembangunan-resort-dinilai-ancam-sumber-air-kota-batu/>
- ✦ Apriando T (2013b) Tolak Pendirian Hotel Baru, Warga Kota Baru terancam masuk bui. *Mongabay.Co.Id*. <https://www.mongabay.co.id/2013/03/19/tolak-pendirian-hotel-baru-warga-kota-batu-terancam-masuk-bui/>
- Arif C, Setiawan BI, Sofiyuddin HA, Martief LM (2013) Enhanced water use efficiency by intermittent irrigation for irrigated rice in Indonesia. *J Islamic Perspect Sci Technol Soc* 1:12–17
- Ariwidodo E (2014) Relevansi pengetahuan masyarakat tentang lingkungan dan etika lingkungan dengan partisipasinya dalam pelestarian lingkungan. *NUANSA: Jurnal Penelitian Ilmu Sosial Dan Keagamaan Islam* 11:1–20
- ✦ Ashrafi S, Kerachian R, Pourmoghim P, Behboudian M, Motlaghzadeh K (2022) Evaluating and improving the sustainability of ecosystem services in river basins under climate change. *Sci Total Environ* 806:150702
- Ayre CW (2021) Faith and a sustainable Pacific. In: Luetz JM, Nunn PD (eds) *Beyond belief*. Climate change management. Springer, Cham, p 377–391
- ✦ Barthel S, Isendahl C (2013) Urban gardens, agriculture, and water management: sources of resilience for long-term food security in cities. *Ecol Econ* 86:224–234
- ✦ Bock C (2016) Climatologists, theologians, and prophets: toward an ecotheology of critical hope. *Cross Curr* 66: 8–34
- ✦ Cafaro P (2015) Environmental virtue ethics. In *The Routledge companion to virtue ethics*
- ✦ Chandranegara IS (2016) Purifikasi konstitusional sumber daya air Indonesia. *Jurnal Rechts Vinding: Media Pembinaan Hukum Nasional* 5:359–379
- ✦ Clough D (2013) Beyond ecotheology. *Theology* 116:47–49
- ✦ Cosgrove WJ, Loucks DP (2015) Water management: current and future challenges and research directions. *Water Resour Res* 51:4823–4839
- Dzwonkowska D (2018) Environmental virtue ethics and sustainability. *Problemy Ekorozwoju* 13:139–146
- ✦ Eckersley R (2020) Ecological democracy and the rise and decline of liberal democracy: looking back, looking forward. *Env Polit* 29:214–234
- Faizah U (2020) Etika lingkungan dan aplikasinya dalam pendidikan menurut perspektif aksiologi. *Jurnal Filsafat Indonesia* 3:14–22
- ✦ Febriani L (2017) Mobilisasi sumberdaya dalam gerakan literasi: (studi pada gerakan vespa pustaka). *Society* 5: 59–67
- ✦ Grygiel WP (2020) An ecological perspective in the evolutionary theology. *Stud Philos Christianae* 56: 277–292
- Hakim AL, Kolopaking LM, Siregar H, Putri EIK (2017) Perebutan sumberdaya air: analisis konflik dan politik tata ruang. *Sodality: Jurnal Sosiologi Pedesaan* Agustus 2017:81–91
- Handayani M, Dwityaningsih R, Triwuri NA (2018) Konflik pemanfaatan sumber daya air untuk irigasi sawah dan kolam di kecamatan maos, kabupaten cilacap. *Akrab Juara: Jurnal Ilmu-Ilmu Sosial* 3:115–121
- ✦ Hidayati D (2017) Memudarnya nilai kearifan lokal masyarakat dalam pengelolaan sumber daya air. *Jurnal Kependudukan Indonesia* 11:39–48
- ✦ Hitzhusen GE (2007) Judeo-Christian theology and the environment: moving beyond scepticism to new sources for environmental education in the United States. *Environ Educ Res* 13:55–74
- ✦ Hourdequin M (2021) Environmental ethics: the state of the question. *South J Philos* 59:270–308
- ✦ Howell N (2021) Scientific data, ecological conversion and transformative affect. *Theol Stud* 77:a6518
- ✦ Humaida N (2019) The importance of ecocentrism to the level of environmental awareness for sustainable natural resources. *IOP Conf Ser Earth Environ Sci* 399:012131
- Jary D, Jary J (1995) *Collins dictionary of sociology*. Harper Collins, New York, NY
- ✦ Jocom HD, Kameo D, Utami I, Kristijanto AI (2016) Air dan konflik: studi kasus kabupaten Timor Tengah Selatan. *Jurnal Ilmu Lingkungan* 14:51–61
- ✦ Johnson Leese JJ (2018) *Christ, creation and the cosmic goal of redemption: a study of Pauline Creation Theology as read by Irenaeus and applied to ecotheology*. T&T CLARK, London
- ✦ Jordan K, Kristjánsson K (2017) Sustainability, virtue ethics, and the virtue of harmony with nature. *Environ Educ Res* 23:1205–1229
- Kassimir R (2006) Youth activism: international and transnational. In: Sherrod LR, Flanagan CA, Kassimir R, Syvertsen AK (eds) *Youth activism: an international encyclopedia*, vol 1. Greenwood Press, Westport, CT, p 20–28
- ✦ Kirkpatrick-Jung A, Riches T (2020) Towards East Asian ecotheologies of climate crisis. *Religions* 11:341
- ✦ Kopnina H (2012) Education for sustainable development (ESD): the turn away from 'environment' in environmental education? *Environ Educ Res* 18:699–717
- ✦ Körtner U (2016) Ecological ethics and creation faith. *Theol Stud* 72:a3296
- ✦ Landres P, Hahn BA, Biber E, Spencer DT (2020) Protected area stewardship in the Anthropocene: integrating science, law, and ethics to evaluate proposals for ecological restoration in wilderness. *Restor Ecol* 28:315–327
- Landriany E (2014) Implementasi kebijakan adiwiyata dalam upaya mewujudkan pendidikan lingkungan hidup di SMA kota Malang. *Jurnal Kebijakan Dan Pengembangan Pendidikan* 2:82–88
- Luetz JM, Leo RG (2021) Christianity, creation, and the climate crisis: ecotheological paradigms and perspectives. In: Luetz JM, Nunn PD (eds) *Beyond belief*. Climate change management. Springer, Cham, p 345–375
- Mason M (1999) *Environmental democracy: a contextual approach* (1st edn). Routledge, London
- ✦ McKinney M, Kemmis D (2011) Collaboration and the ecology of democracy. *Hum Dimens Wildl* 16:273–285
- ✦ Moerad SK, Susilowati E (2016) Pengembangan dan pemanfaatan sumber daya air ramah lingkungan (studi kasus air bersih di Umbulan Pasuruan). *Jurnal Sosial Humaniora* 9:44–58
- ✦ Mompremier R, Her Y, Hoogenboom G, Song J (2022) Effects of deforestation and afforestation on water availability for dry bean production in Haiti. *Agric Ecosyst Environ* 325:107721
- ✦ Mpofu B (2021) Pursuing fullness of life through harmony with nature: towards an African response to environmental destruction and climate change in southern Africa. *Theol Stud* 77:a6574

- ✦ Nasibulina A (2015) Education for sustainable development and environmental ethics. *Procedia Soc Behav Sci* 214: 1077–1082
- ✦ Newton A, Icelly J, Cristina S, Brito A and others (2014) An overview of ecological status, vulnerability and future perspectives of European large shallow, semi-enclosed coastal systems, lagoons and transitional waters. *Estuar Coast Shelf Sci* 140:95–122
- Nugroho A (2020) Awal penjajah kolonial masuk daerah Batu-Sejarah daerah Batu Malang (11). *Batukita.Com*. www.batukita.com/2020/06/awal-penjajah-kolonial-masuk-daerah-batu-malang.html
- Oberschall A (1994) Review [untitled] of *Frontiers in social movement theory* by Morris AD & Mueller CM. *Social Forces* 72:1269–1271
- Ottuh POO (2020) Religious approach to non-anthropocentric ethics in environmental philosophy. *Cógito Multidiscip Res J* 12:7–24
- ✦ Palmer C, McShane K, Sandler R (2014) Environmental ethics. *Annu Rev Environ Resour* 39:419–442
- Pedersen KP (2000) Environmental ethics in interreligious perspective. In: Twiss SB (ed) *Explorations in global ethics: comparative religious ethics and interreligious dialogue*. Routledge, New York, NY, p 253–290
- ✦ Permanasari E, Hendola F, Purisari R, Safitri R (2018) Penyelamatan air tanah dan penanggulangan sampah melalui program biopori dan komposter di pemukiman kecil di Kelurahan Ciputat dan Ciputat Timur. *Jurnal Pengabdian Kepada Masyarakat* 4:51–64
- Permatasari YA (2017) Resolusi konflik pengelolaan sumber mata air cokro tulung kabupaten klaten. *Sosialitas: Jurnal Ilmiah Pendidikan Sosiologi Dan Antropologi* 5: 2015.
- ✦ Perreault T (2014) What kind of governance for what kind of equity? Towards a theorization of justice in water governance. *Water Int* 39:233–245
- ✦ PPN/Bappenas (2019) Rancangan teknokratik rencana pembangunan jangka menengah nasional 2020–2024. <https://www.batukarinfo.com/referensi/rancangan-teknokratik-rencana-pembangunan-jangka-menengah-nasional-2020-2024>
- ✦ Prior J (2016) Environmental ethics: an overview for the twenty-first century. *J Environ Policy Plan* 18: 255–257
- ✦ Ramp D, Bekoff M (2015) Compassion as a practical and evolved ethic for conservation. *BioScience* 65:323–327
- Riski P (2014) Warga Batu siap hadapi banding pertahankan mata air umbul gemulo. *Mongabay.Co.Id*. <https://www.mongabay.co.id/2014/08/22/warga-batu-siap-hadapi-banding-pertahankan-mata-air-umbul-gemulo/>
- Rolston H III (2011) *A new environmental ethics: the next millennium for life on earth*. Routledge, New York, NY
- Sallata MK (2015) Konservasi dan pengelolaan sumber daya air berdasarkan keberadaannya sebagai sumber daya alam. *Info Teknis EBONI* 12:75–86
- ✦ Schnegg M, Kiaka RD (2018) Subsidized elephants: community-based resource governance and environmental (in)justice in Namibia. *Geoforum* 93:105–115
- ✦ Shutaleva A, Nikonova Z, Savchenko I, Martyushev N (2020) Environmental education for sustainable development in Russia. *Sustainability* 12:7742
- ✦ Sideris LH (2009) Religion, environmentalism, and the meaning of ecology. In: Gottlieb RS (ed) *The Oxford handbook of religion and ecology*. Oxford University press, Oxford, p 446–464
- ✦ Sovacool BK, Burke M, Baker L, Kotikalapudi CK, Wlokas H (2017) New frontiers and conceptual frameworks for energy justice. *Energy Policy* 105:677–691
- ✦ Sponsell LE (2007) Spiritual ecology: one anthropologist's reflection. *J Stud Religion Nat Cult* 1(3):340–350
- ✦ Sukmawan S, Nurmansyah MA (2012) Etika lingkungan dalam folklor masyarakat desa tengger. *Literasi: Indones J Human* 2:88–95 <https://jurnal.unej.ac.id/index.php/LIT/article/view/6081/4500>
- ✦ Suratin A, Triakuntini E, Herdiansyah H (2019) Effects of the implementation of a progressive tariffs policy on water management in DKI Jakarta, Indonesia. *Environ Socio-Econ Stud* 7:36–44
- Surya.co.id. (2012) Gemulo dan pilwali sedot Perhatian. *Surabaya.Tribunnews.Com*. <https://surabaya.tribunnews.com/2012/12/28/gemulo-dan-pilwali-sedot-perhatian>
- Tilly C (2004) *Social movement, 1768–2004*. Paradigm Publishers, New York, NY
- Trisnawati H (2012) Dampak perkembangan infrastruktur pariwisata terhadap konflik air di kabupaten badung dan tabanan. *Jurnal Ilmiah Pariwisata* 2:109–222
- ✦ Turner D (2012) Book review: 'Environmental ethics: readings in theory and application, 6th edn. Pojman LP, Pojman P (eds)'. *Teaching Philos* 35:448–451
- Urzúa JAL, Gaete GL (2018) Making environmental ethics more practical: a model of principlism. *Ramon Llull J Appl Ethics* 9:95–116
- Utomo AP (2018) Kearifan lokal dalam pembuatan angklung paglak sebagai sumber etika lingkungan. *Jurnal Biologi Dan Pembelajaran Biologi* 3:176–190
- ✦ Valera L, Vidal G, Leal Y (2020) Beyond application. the case of environmental ethics. *Tópicos (Méx) Rev Filos* 60: 437–460
- ✦ Yuono YR (2019) Etika lingkungan: melawan etika lingkungan antroposentris melalui interpretasi teologi penciptaan yang tepat sebagai landasan bagi pengelolaan-pelestarian lingkungan. *FIDEI: Jurnal Teologi Sistemika Dan Praktika* 2:186–206
- ✦ Zhang Z, Malik MZ, Khan A, Ali N, Malik S, Bilal M (2022) Environmental impacts of hazardous waste, and management strategies to reconcile circular economy and eco-sustainability. *Sci Total Environ* 807:150856

Editorial responsibility: Darryl Macer, Scottsdale, Arizona, USA
Reviewed by: S. P. Bratton, M. Sayem, D. Jura and 1 anonymous referee

Submitted: June 23, 2022
Accepted: February 17, 2023
Proofs received from author(s): April 30, 2023