

# Developing ecological piety in pesantren: the Kyai's cognition and the practice of living *fiqh al-bī'ah* in Banten

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This study investigates the formation of ecological devotion within pesantren, led by kyai in the application of *fiqh al-bī'ah*. It delineates the developmental stages into three components aligned with Berger and Luckmann's social construction theory: externalisation, objectification, and internalisation. Using qualitative methods and field studies, data were gathered through semi-structured interviews with three religious leaders from two eco-pesantren in Banten Province. Externalization is exemplified by the kyai's teachings on humanity as caliphs, advocating against harming the Earth,

emphasizing cleanliness as integral to faith, and prioritising *tabhārah* in fiqh. Objectification is seen in the prohibition of deforestation and embedded environmental preservation duties within the schools' hidden curriculum. Internalisation reflects practical implementation aligned with established objectives, observed through growing pro-environmental consciousness, attitudes, and behaviours among school members, evolving progressively. This construction of ecological devotion resulted in tangible contributions to groundwater conservation and flood risk mitigation by the two schools. The findings highlight Islamic boarding schools' potential to elevate environmental standards via *fiqh al-bi'ab*-rooted ecological wisdom. Collaborative efforts involving stakeholders, such as financial support and training programmes, are vital to enhancing the environmental management capacity, particularly in establishing impactful water management systems within these institutions.

Tujuan penelitian ini untuk mengeksplorasi proses konstruksi realitas sosial kesalahan ekologis di lingkungan pesantren oleh para kyai sebagai wujud penerapan *fiqh al-bi'ab*. Peneliti memilah proses konstruksi menjadi tiga komponen sesuai dengan teori konstruksi sosial realitas dari Berger dan Luckmann, yaitu eksternalisasi, objektivikasi, dan internalisasi. Penelitian ini didesain menggunakan metode kualitatif dengan pendekatan studi lapangan. Data penelitian didapatkan dengan wawancara semi terstruktur dengan tiga tokoh agama di dua eko-pesantren di Provinsi Banten. Eksternalisasi diketahui muncul dalam bentuk penafsiran para kyai terhadap peran manusia sebagai *kehalifah* dan larangan berbuat kerusakan di muka Bumi, adagium bahwa kebersihan adalah sebagian dari iman, dan penempatan *tabhārah* sebagai bagian awal untuk memasuki *fiqh*. Adapun bentuk objektivikasi adalah larangan menebang pohon dan kewajiban-kewajiban yang terarah pada upaya memelihara lingkungan hidup di pesantren yang diprogram sebagai kurikulum tersembunyi di pesantren. Internalisasi yang terjadi merupakan praktik nyata di lapangan yang sesuai dengan objektivikasi yang telah dibuat dan dijadwalkan. Internalisasi ditunjukkan dengan kesadaran, sikap, dan perilaku yang pro-lingkungan pada hampir semua orang di dalam pesantren dan berlangsung secara progresif seiring waktu. Dampak yang lebih luas dari proses konstruksi kesalahan ekologis ini adalah kontribusi nyata kedua pesantren dalam konservasi air tanah maupun mitigasi risiko banjir. Temuan penelitian ini mengindikasikan bahwa pesantren dapat berpartisipasi dalam meningkatkan kualitas lingkungan hidup lewat konstruksi kearifan ekologis berbasis *fiqh al-bi'ab*. Diperlukan peran pihak terkait untuk dapat memberikan bantuan dana maupun pelatihan guna memaksimalkan kemampuan eko-pesantren dalam mengelola lingkungan, khususnya dalam upaya membangun sistem pengelolaan air yang berdampak luas bagi masyarakat sekitar.

**Keywords:** *ecological-pesantren; environmental cleanliness; environmental communication; and construction of awareness; fiqh al-bi'ab.*

## **Introduction**

The doctrinal foundation of Islamic law offers guidance for preserving nature and preventing environmental degradation, a pivotal factor in the exacerbation of climate change (Munib et al., 2022). Consequently, adherence to Islamic principles assumes a

significant role in averting environmental destruction and mitigating air and water pollution (Mohamad & Ismail, 2023). The escalation in hydrometeorological disasters and instances of extreme heat serves as conspicuous evidence of intensifying global climate change. Nevertheless, Indonesia exhibits a persistently high level of denialism concerning climate change (Renaldi, 2019). Contributing to this issue, the media has notably failed to cultivate public awareness regarding climate change in Indonesia. As observed, climate change remains a topic largely overlooked by the Indonesian media (Agustina et al., 2020). Even in cases where tangible impacts of climate change, such as floods, forest fires, or epidemics, garner media attention, attributions primarily pivot towards short-term and localised factors, disregarding the overarching climate change influences.

Pesantren serves as a conducive environment for fostering environmentally conscientious attitudes and behaviours, thereby mitigating the adverse impacts of climate change and fostering a conducive microclimate conducive to learning. This advantageous context is attributed to several factors inherent within pesantren. These include a more regimented activity schedule, a stronger collective identity, intensified social interactions, and extended learning durations, surpassing those typically offered in formal educational settings (Maisah et al., 2020). Situated predominantly in rural areas, many of the pesantren play a pivotal role as catalysts for sustainable village development. The promotion of sustainable rural development stands as a national developmental endeavour aimed not only at enhancing the economy through the prudent utilisation of natural resources but also at prioritising social and environmental considerations (Fatimatuzzahro et al., 2015).

The inherent advantages embedded within pesantren institutions offer a unique opportunity for *kyai*, scholarly leaders within these establishments (Isbah, 2020), to leverage *fiqh al-bi'ah* (Islamic environmental law) in shaping a social construct that optimizes the role of religion in mitigating environmental degradation and fostering ecological well-being -a concept referred to as ecological piety. The pivotal role of leaders in effecting transformative change within community groups, particularly among pesantren communities, assumes paramount significance in engaging *santri* (students) in environmental conservation efforts. As highlighted by Suratno (2022), the direct involvement of community groups significantly influences the adherence of their members to these initiatives. Therefore, scrutinising

the *Kyai's* role in instilling ecological piety among the *santri* holds critical importance. The *Kyai's* endeavours aimed at cultivating ecological piety within students through the social construction of reality, from a communicative standpoint, can be perceived as an endeavour in environmental communication. Environmental communication encompasses any communicative undertaking intertwined with ecological contexts and concerns (Bruhn, 2023).

Environmental communication encompasses two pivotal social functions: the encouragement of individuals to adopt environmentally responsible behaviours and the influence on how individuals perceive and construct significance within their surrounding environment (Kugo, 2022). Both of these social functions manifest notably in the dissemination of ecological piety by the *kyais*. Through the instruction and deliberation of *fiqh al-bi'ah*, valuable information is imparted to the *santri*, enabling them to engage in actions that promote environmental friendliness and stewardship. Consequently, this reinforces the bond between humans and the Divine, underscoring humanity's role as *khalifah* endowed with the responsibility to safeguard and preserve the environment.

Within the realm of environmental communication, ecological piety denotes a behavioural phenomenon rooted in the protection and preservation of the environment, propelled by norms, particularly religious norms. Two theoretical frameworks elucidating the interplay between norms and behaviour include the value-belief-norm theory and the norm activation model (Chang, 2021). The value-belief-norm theory posits that awareness of the adverse repercussions of one's actions on cherished religious values, coupled with the comprehension of positive actions capable of averting these consequences, can foster a surge in environmentally conscientious behaviour (Bergman, Good dan Moreo, 2022). In contrast, the norm activation model contends that personal religious norms are triggered when individuals comprehend the outcomes of their conduct and acknowledge their responsibility, precipitating feelings of guilt. This sense of guilt subsequently motivates individuals to act in response to a moral obligation to address societal concerns (Wang, 2022).

The process of formulating ecological piety by the *kyai* can be perceived as an endeavour aimed at eliciting religious values within *santri*, thereby motivating them to adopt

environmentally responsible conduct. This endeavour often manifests through the kyai's actions involving communication of the potential consequences arising from environmental harm, such as sin, elucidating methods to avert these repercussions, and emphasising the individual responsibility of students, akin to their role as *kehalifah* (caliphs), in mitigating these adverse outcomes.

Studies within the realm of environmental communication reveal that conventional media channels, including face-to-face interactions and print media, frequently exhibit greater efficacy in fostering individual environmental responsibility and promoting environmentally conscientious behaviour in comparison to contemporary digital platforms, such as social media (Wang, 2022). These insights suggest that pedagogical approaches conducted within classroom settings or through direct demonstrations by religious leaders represent a more effective, albeit traditional, means of promoting ecological piety, surpassing the effectiveness of contemporary non-face-to-face digital media methods.

From the perspective of environmental communication, there's a distinct view regarding the authority of *kyai* to issue directives to those beneath them, specifically the *santri*. Environmental communication perceives *kyai* or other effective environmental communicators as individuals who share power, aiming to empower others, especially those from marginalised groups like *santri*. Thus, the relationship between *kyai* and *santri* is not one of command and compliance but is characterised as a relationship between equals. Each party encompasses three vital components: access, position, and influence (Westin, Hallgren dan Montgomerie, 2023). Environmental communication initiatives essentially constitute the *kyai's* endeavours to facilitate access, position *santri* strategically, and cultivate their development so that they attain greater influence in human-environment relations and interrelations among *santri* and wider society. This, in turn, facilitates emulation and widespread replication of their behaviours.

Environmental communication initiatives yielding substantial impact necessitate effective empowerment strategies and encompass participatory approaches that transcend conventional boundaries (Hunt, Walker dan Depoe, 2019; Sprain, 2023). This endeavour can be interpreted within the framework of *fiqh* as *ijtihad*, as it surpasses the confines delineated by social norms, notably religious norms. *Kyais* are thus urged to demonstrate

increased creativity and innovation in communication, effectively reconstructing realities. This proactive approach aims to profoundly and extensively integrate *fiqh al-bi'ah* and ecological piety into the lives of the *santri*.

This study investigates and examines the process of social reality construction conducted by *kyai* within two specific pesantren establishments situated in Banten Province, focusing on their efforts towards environmental preservation. These pesantren are recognised for their dedicated emphasis on ecological principles. This exploration of ecological piety serves to offer insights into the mechanisms of social construction within enclosed educational settings such as pesantren, potentially serving as a model for fostering ecological piety. This model can be replicated and enhanced by other pesantren across Indonesia. It acknowledges that addressing environmental challenges cannot be divorced from considerations of religious, ethical, and moral dimensions (Muhamad, Abdullah dan Arsad, 2021).

The evolution of *fiqh al-bi'ah* in Indonesia has engendered diverse strands of thought. At its broadest scope, Najib et al. (2020) and YUSDANI and ARFAIZAR (2023) posit that Islamic teachings can be channelled towards environmental conservation through theological, Sufi, and *usul al-fiqh* perspectives. Among these approaches, the *usul al-fiqh* perspective stands as the most extensively explored. RIDWAN (2013) and Maimunah et al. (2020) contend that *fiqh al-bi'ah* can be constructed to foster *maslahat*-based development.

The proposition of utilising *usul al-fiqh* frameworks as a catalyst for practical environmental reform finds resonance in Jenkins's work (2005). Gade (2015) contends that the issuance of fatwas and the utilisation of *da'wah* to propagate this environmental jurisprudence approach can prove effective, particularly in scenarios where endeavours by non-governmental organisations (NGOs) with a secular approach encounter limitation. However, Gade (2012) places greater emphasis on an effective approach that stimulates individuals' emotions, drawing from the life of the prophet and subjective personal sentiments, to foster environmental consciousness among people. This affective approach aligns more closely with Sufism's elements than the propositions within *usul al-fiqh* frameworks.

The cognitive approach delves into diverse Quranic verses and other authoritative sources to cultivate public consciousness. For instance, Acim and Suharti (2023) compiling

the works of Quranic exegesis (*tafsīr*, examining the perspectives of ulama in Lombok, highlight that *fiqh al-bī'ah* within the Quran expounds on guidelines for engaging with the environment, elucidates the repercussions of environmental degradation, emphasises environmental stability as a divine blessing, underscores human misconduct as a root cause of environmental harm, advocates for environmental equilibrium and prohibitions against environmental destruction, delineates leaders' obligations in environmental preservation, and stresses the imperative nature of *fiqh al-bī'ah*.

Santoso and Asnawan (2023) underscored the *jinayat* facet within *fiqh al-bī'ah*, concluding that this dimension holds potential for the enforcement of environmental law in Indonesia. In a parallel vein, Mangunjaya (2011) collated a compendium of *fiqh al-bī'ah* in collaboration with scholars, disseminating it within the community. The findings revealed a positive reception from the community, showcasing their willingness to engage and contribute to environmental betterment. Furthermore, Mufid (2018) demonstrated the applicability of *fiqh al-bī'ah* within specific contexts, such as coastal fishing, illustrating its utility in imparting ecological piety relevant to the daily lives of individuals.

This study adopts a cognitive approach, foregrounding environmental awareness as the foundational element of *uṣūl al-fiqh* for *fiqh al-bī'ah* within the pesantren setting. Efendi, Kurniawan and Santoso (2021) conducted a study examining Muhammadiyah's ecological initiatives post-the New Order era, revealing that the organisation's environmental activism predominantly prioritises economic justice over ecological security and conservation movements. In contrast, Mufid's research (2020) in the Nahdlatul Ulama environment demonstrates a significant emphasis on environmental concerns within the organisation. This emphasis is evidenced through the issuance of various fatwas and their practical implementation in the field.

While existing research has focused on these two Islamic organisations, studies specifically examining particular pesantren deemed successful in the application of *fiqh al-bī'ah*, particularly at a conceptual level, remain scarce. A few notable studies include Pesantren Attanwir's collaboration in forest land conservation with the local community through the Pesantren Kopi concept (Hasba and Mukhlis, 2018), groundwater management initiatives at Pesantren Anwarul Huda Malang (Umam, 2017), and the exploration of eco-

Sufism practises at Pesantren Al-Amin Prenduan (Suhaimi, 2021). However, within the limited corpus of studies on *fiqh al-bi'ah* in pesantren, most tend to offer superficial accounts of activities without comprehensive elucidation, particularly regarding how awareness catalyses the construction of social reality from *ustadz* to *santri*, fostering ecologically conscious pesantren environments.

The primary aim of this study is to investigate the intricate process involved in constructing the social reality of ecological piety within the pesantren environment. Berger and Luckmann (1991) delineated the process of social reality construction through three interrelated stages: externalisation, objectification, and internalisation. Externalisation signifies the expression of human existence in the world, encompassing both mental and physical activities that are comprehensible to others. Objectification emerges as the dialectical outcome of the externalisation process, tangibly manifested in the social sphere. Internalisation, on the other hand, involves the reintegration of the external world into individual consciousness, shaping the subjective experiences of individuals in accordance with the structures of the social world (Berger & Luckmann, 1991). The specific objectives of this study encompass threefold, to identify the processes of externalisation, objectification, and internalisation undertaken by *ustadz* within the pesantren environment in the construction of ecological piety, drawing upon social knowledge and experiential insights.

## **Method**

This research employs qualitative methodologies with a field study approach conducted in January 2023, spanning a three-week period across two distinct eco-pesantren settings. The first pesantren, led by Aang Khunaepi, operates as a *salafi* institution situated in the Citasuk area of Padarincang District, Serang Regency, Banten. Established in 2020, it currently accommodates 30 *santri* with over 500 alumni. The second pesantren, Darul Qolam (Darqo), is overseen by KH. Nahrul Ilmi Arief. The *kyai* of this pesantren delegated Ustadz Dedi Haeruzi, the head of the language department, and Ustadz Hamdan Widadi, the head of the teaching department, as representatives. Renowned for its immaculate and orderly environment, Darul Qolam garnered attention from local media due to its notable



contributions to the surrounding ecological landscape. The selection of these two pesantren stems from their notable recognition in local media for their proactive contributions to environmental stewardship within their respective locales.

The study utilised both primary and secondary data sources. Primary data were gathered through semi-structured interviews conducted with three key leaders from two distinct pesantren. Semi-structured interviews are designed to guide the conversation with a set of questions, ensuring comprehensive and detailed insights. This approach offers flexibility, allowing adjustments to questions based on the respondents' responses. Moreover, it fosters an empathetic rapport between the researcher and participants, facilitating the exploration of supplementary information beyond the research scope (Sobur and Mulyana, 2020). Secondary data were acquired through firsthand observations at two pesantren situated in the Banten region: the Pesantren Salafi in Citasuk and the Pesantren Darul Qolam in Pasir Gintung. Field observations were conducted to scrutinise the direct involvement of *kyai*, *ustadz*, and *santri* in environmental management practises within these pesantren. This firsthand observation enabled the author to witness and analyse the approaches and efforts undertaken by both institutions in caring for and maintaining their respective environments.

Upon completion of the informant interviews, the researcher transcribed the dialogues verbatim and subsequently provided these transcripts to the informants for verification. An initial inductive analysis ensued, involving a comprehensive review, interpretation, and coding of the primary level, focusing on concepts derived from the interview guide. The emerging themes were rigorously scrutinised and deliberated upon to consolidate into primary themes, ensuring alignment with the interviewees' experiences and confirming the accuracy of the analysis.

### **The understanding of kyai on *fiqh al-bī'ah* in environmental conservation**

The Kyai at the Pesantren Salafi in Padarincang ground their understanding of *fiqh al-bī'ah* on the presence of the *ṭahhārah* issue within various *fiqh* literature, interpreting it as a testament to the significance of cleanliness in Islam. Beyond deriving insights from textual analysis highlighting the importance of cleanliness, the *Kyai* of Padarincang also underpin the maintenance of environmental cleanliness within his pesantren on a hadith emphasising

*al-naẓāfah min al-īmān* (cleanliness is part of faith). Within the framework of Islamic theology, the notion of caring for the environment (*hiḏm al-bi'ah*) holds equivalence to safeguarding other integral aspects such as religion, the soul, intellect, progeny, and property (Rusdi, 2017).

The hadith containing the narration *al-naẓāfah min al-īmān* is deemed problematic due to its reliance on a sole narrator whose memorisation and moral integrity raise doubts (Ailah and Ridwan, 2019). A more robust hadith presents the narrative *al-ṭubūru ṣaḥābu al-īmān* (purity is part of faith) (Arif, 2023). However, this latter hadith is less prevalent, possibly owing to the broader and more abstract concept of purity compared to the concept of cleanliness. Despite this, the maxim “cleanliness is part of faith” has permeated the public sphere as an Islamic adage, found popularity, and can serve as a justification for promoting environmentally friendly practises.

Historically, the majority of *fiqh* works commence with the *ṭabḥārah* chapter, a convention following the systemisation established by al-Shāfi (2001). According to al-Buhūti (1997), a prominent Hanbali scholar, the rationale behind commencing *fiqh* books with the *ṭabḥārah* chapter lies in the hierarchy of pillars within Islam. Al-Buhūti posits that after the *shahada*, the second most crucial pillar is prayer, which necessitates purification as a prerequisite. Consequently, in the composition of *fiqh* texts, the order of precedence should entail prerequisites preceding requirements, exemplified by positioning *ṭabḥārah* before prayer (Arif, 2023).

The *Kyai* from Darul Qolam base their understanding of *fiqh al-bi'ah* on the narration of *al-naẓāfah min al-īmān*. In addition to this, references are made to several Quranic verses, including Al-Araf: 56 and Al-Baqarah: 11 and 30. The *Kyai* also invoked the concept of *khalīfah*, as elucidated in Al-Baqarah: 30, which is construed as a steward responsible for safeguarding the universe. This concept carries implications for the act of preserving the earth from harm. Furthermore, Al-Araf: 56 and Al-Baqarah: 11 are verses that explicitly prohibit causing harm or damage to the earth.

The utilisation of these concepts to expound upon *fiqh al-bi'ah* aligns with Koersen's (2021) assertion that the fundamental principles guiding environmental management can be derived from the principles of *tawḥīd*, *mizān*, *khalīfah*, and *maṣlaḥah*. However, findings from this study reveal that practical environmental management within pesantren diverges

from four main concepts: *ṭabbārah*, *al-naẓāfah min al-īmān*, *khalīfah*, and the prohibition of causing harm to the earth. A notable discovery from this research indicates that even with a relatively less emphasised *fiqh* tenet such as *al-naẓāfah min al-īmān*, pesantren communities engage in environmental conservation activities. The acceptability of this tenet lies in its succinct and unequivocal nature. Conversely, concepts like *tawhīd*, *mizān*, and *maṣlahah* are more general and are frequently associated with creed and social aspects. The concept of *khalīfah*, while inherently broad, is founded on another concept pertinent to the environment -the earth-allowing for a seamless correlation between the concept of *khalīfah* and nature conservation.

In summary, the interpretation of the religious significance embedded in the term *al-naẓāfah min al-īmān*, the primacy accorded to *ṭabbārah* in the application of sharia, adherence to the proscription against causing harm to the earth, and the acknowledgement of humanity's role as *khalīfah* on Earth collectively constitute the externalisation component within the *kyai's* actions. These beliefs contribute to shaping an objective reality mediated by knowledge (Friedman, 2016).

From the standpoint of environmental communication, diverse *fiqh* principles that rationalise human endeavours aimed at preserving and nurturing the earth are regarded as norms. Initially, these norms exhibit a general character but gradually evolve into personal norms as individuals, a *santri* or a *kyai*, acquire a more intricate comprehension of Islamic teachings alongside various daily experiences. Once internalised, these personal norms tend to govern an individual's behaviour. Instances of transgressions against these personal norms may not invariably be identified or socially censured, but such deviations typically evoke feelings of guilt that prompt immediate correction (Wang, 2022).

### **Objectification of ecological piety in the eco-pesantren**

The externalisation of emotions by the *kyai* through their interactions with the *santri* is evident through various activities within the eco-pesantren, including daily cleaning duties, weekly collective cleaning sessions during *Jumat Bersih* (clean Friday), tree planting initiatives, educational materials highlighting the advantages of tree planting, and encouragements to uphold environmental hygiene. The administration of the eco-pesantren demonstrates their

cultivation of environmental consciousness by means of tangible actions, eschewing the need for explicit written regulations. The deliberate absence of written guidelines aims to signify the assimilation of this awareness and messaging, such that it becomes an inherent, automatic facet governing all facets of life. This internalisation facilitates a collective responsibility where individuals autonomously engage in tasks to maintain cleanliness.

In the realm of education, these implicit guidelines are commonly referred to as the hidden curriculum. This hidden curriculum holds significance in fostering social and emotional learning, serving as a complement to the formal written curriculum, which primarily focuses on cognitive development (Maynard, Warhurst dan Fairchild, 2023). In connection to this process of objectification, the *santri*, both as individuals and as constituents of society, are continuously evolving, dynamic, and multifaceted entities. This aligns with Berger and Luckmann's (1991) assertion that individuals are not only shaped by society but also actively participate in shaping society in an ongoing, reciprocal manner. Within this pesantren, the social dynamics involved in preserving and managing the environment unfold through persistent actions and interactions, subjectively owned and experienced by the students.

All individuals within the pesantren community are actively engaged in initiatives aimed at managing and preserving the environment, without any exclusions. The development of ecological consciousness is a collective endeavour, constituting a social construct that exerts a unifying influence, compelling uniform behaviour among all participants. The designated cleaning personnel operate more akin to managerial figures, overseeing system accountability within the organisational framework. These diverse role allocations represent additional systems of objectification that reinforce the direct programmes.

The process of objectification is further evident through the implementation of prohibitions and assessments within the eco-pesantren. These restrictions and evaluations signify a framework of sanctions and guidelines that are enforced to uphold the integrity of collectively constructed ecological awareness. Moreover, this system substantiates awareness by assuming tangible forms, both negatively (in the absence of waste) and positively (in the presence of trees and small reservoirs). One prominent prohibition highlighted by the interviewee pertains to tree cutting and the mandatory requirement for each *ustadz*'s

residence to have a tree, along with every building housing a planted tree (Haeruzi, 2023). According to the interviewee, this prohibition significantly contributes to the flourishing tree population within the pesantren environment. However, within the realm of Islamic jurisprudence (fiqh), the prohibition of tree cutting remains a contentious issue. Sukarja (2004) contends that the prohibition contradicts Islamic teachings since Allah provides wood for human use. Instead, He suggests a policy mandating the planting of one hundred new trees for every tree felled, recognising that the felling of a tree can detrimentally impact the surrounding environment and necessitate restoration efforts.

From an environmental communication perspective, objectification can be perceived as a communicative endeavour facilitated through established media channels. Traditional media formats like face-to-face communication, encompassing appeals, and printed materials such as cleaning schedules and educational resources represent prevalent communication mediums within pesantren settings. These mediums are readily accessible to both *santri* and *kyai*, effectively circumventing technological barriers that might impede communication. Embracing traditional media also circumvents potential challenges associated with newer media, which at times may engender technical complexities, diverting focus towards learning the intricacies of the medium rather than comprehending the conveyed messages. Conversely, oral discourse and straightforward printed materials like schedules and educational resources require no preparatory acclimation for media comprehension. The messages conveyed through these mediums also resonate with the daily experiences of pesantren communities accustomed to low-technology environments. Previous research has further validated that the utilisation of traditional media tends to be more efficacious in fostering effective environmental communication (Wang, 2022).

The interview findings illustrate that these kyais function as facilitators in power distribution. While sanctions are imposed, their nature leans more towards educational guidance. Likewise, while there are specific regulations dictating daily duties like cleaning, the broader, more overarching regulations remain implicit and unwritten. This unwritten aspect suggests that the primary emphasis does not lie in strict compliance with explicit rules but in adhering to fundamental principles that hold significant meaning for all involved parties. Environmental stewardship is a collective responsibility upheld without exception, ensuring

equal access for all. For instance, if *santri* observes *kyai* littering, they can respectfully remind the *kyai*, leading to the *kyai* feeling embarrassed due to being open to correction by the *santri*. The objectification enacted by the *kyai* to foster ecological piety demonstrates their commitment to conveying deeply held values through appropriate channels, notably via power distribution. This process empowers *santri* to engage in environmental conservation efforts that surpass prescribed guidelines, consequently extending influence beyond the confines of the pesantren.

### **Internalisation of environmental awareness in constructing ecological piety**

The internalisation of practises stemming from the objectification established by the *kyai* is exemplified, notably in the domain of water management within the pesantren. The management of water resources undertaken by the pesantren involves the establishment and upkeep of reservoirs, serving not only as a water source for the pesantren's necessities but also contributing to the structural integrity of the buildings utilised. Water maintenance holds significant importance in adhering to Islamic rituals, as water serves as a purifying agent preceding various routine activities such as prayers, attending work or school, and resting. Consequently, water conservation forms a fundamental component of the curriculum rooted in Islamic-based conservation principles (Zabidi, Abd Rahman dan Halim, 2021).

The Pesantren consistently organises collective cleaning sessions, notably during the Friday clean programme. Friday was selected as a day for communal engagement due to its significance as the primary day for worship in Islamic doctrine. Another tangible practise observed among the *santri* and *ustadz* involves the planting and landscaping of trees and grass, along with environmental cleanup initiatives. These endeavours aim to foster cognitive awareness, and the consistent and symbolic nature of these practises exhibited by the pesantren members signifies an earnest attempt to apply *fiqh al-bi'ah* principles. This approach aims to address ecological crises and pursue conservation efforts within the local context (Abdullah, 2010).

The ramifications of ecological conscientiousness on the attitudes and conduct of eco-pesantren students manifest as impediments to fostering comprehensive awareness. Despite

the earnest willingness, steadfast consistency, and coordinated efforts demonstrated by senior *santri*, there persists a segment of individuals lacking awareness. The dedication, persistence, and cohesion exhibited by senior *santri* signify the cultivation of attitudes and behaviours among *santri*, transcending mere adherence to obligatory regulations. They have tangibly experienced the advantages stemming from environmental stewardship and management.

Khunaepi conveyed that since the establishment of his pesantren in 2020, he has introduced principles of self-sufficiency and environmental consciousness aimed at enhancing the living conditions and gradual advancement of the *santri* (Khunaepi, 2023). This lifestyle ethos aligns with the notion of halal, representing a technical standard associated with cleanliness and the absence of impurity (Jamil, 2022). The practical integration of the halal paradigm from the inception of the pesantren into behavioural domains, extending beyond dietary practises, stands as a pivotal impetus for fostering broader and more progressive environmental preservation over time. Khunaepi elucidated that the presence of Pesantren Salafi in Padarincang has yielded environmental benefits. Prior to the establishment of the pesantren, the local populace encountered challenges in accessing clean water, requiring arduous ascents of mountains and enduring prolonged waits, surpassing an hour, to secure water. After the establishment of the pesantren, concerted environmental initiatives were undertaken, notably focused on water management, the construction of water storage facilities, and the upkeep of water conduits. As a result of these efforts, accessibility to water markedly improved, facilitating direct access to households within the community.

Pesantren Darul Qolam has actively engaged in flood mitigation and efficient water management, as exemplified by the creation of infiltration wells and small reservoirs. Visitors to the pesantren attest to feeling a sense of comfort and homeliness within its environment. The establishment of the pesantren in this locality is purported to have positively impacted both the health standards of its students and the surrounding community, fostering an elevated emphasis on cleanliness and hygiene among the students in comparison to their counterparts in other pesantren, who display lower standards of cleanliness and are more susceptible to dermatological ailments. The prevalent association of pesantren with skin diseases and hygiene-related illnesses can be mitigated through the adept management of

water resources by pesantren (Widadi, 2023). The critical significance of clean water as the principal medium for purification in Islam warrants heightened attention and consideration.

The active involvement of both pesantren in facilitating access to clean water and undertaking environmental stewardship aligns with the implementation of the sustainability principle articulated in Law No. 18/2019 governing pesantren. The underlying tenet of sustainability within this law underscores that pesantren management ought to serve not only the immediate interests of the present generation but also ensure benefits for subsequent generations (as clarified in Article 2, letter i of the Law No. 18/2019). This delineation closely parallels the internationally recognised definition of sustainability, regarded as a pivotal measure in combating climate change and addressing broader environmental challenges (Ben-Eli, 2018).

Education regarding environmental awareness and its management to alleviate the impacts of climate change has been an enduring endeavour, potentially extending back to the inception of pesantren in Indonesia. This pursuit finds support not only within the teachings of Islam as delineated in the Quran and Sunnah but also garners consensus among scholars. For instance, a movement akin to eco-pesantrens was instigated as early as the 1970s by Pesantren An-Nuqayah in Madura, focusing on water conservation (Jamil, 2022). The 29th Nahdlatul Ulama (NU) congress held in Cipasung, Tasikmalaya, in 1994, culminated in a resolution affirming that the despoliation of the environment—encompassing air, water, and land—constitutes a criminal offence (Bahri, 2018). Further underscoring this stance, on July 23, 2007, the Executive Board of Nahdlatul Ulama (Pengurus Besar Nahdlatul Ulama/PBNU) reasserted this commitment through the National Movement for Forestry and the Environment, emphasising that environmental conservation embodies a form of jihad movement.

The efficacy demonstrated by the Pesantren Salafi and the Pesantren Darul Qolam in environmental preservation underscores the significant role of Islamic educational institutions in environmental stewardship through the integration of Islamic ethics and ecology (Herdiandyah, Sukmana dan Lestari, 2019). While the conservation efforts currently remain confined to the immediate environs of these pesantren, this accomplishment signifies an auspicious initial stride towards instilling ecological consciousness from a broader lens,



encompassing issues such as climate change and global warming. The roles of *kyai* and pesantren, along with all stakeholders therein, have transcended mere advisory functions, evolving into tangible actions. There is a pressing need for a specialised study pertaining to environmental concerns approached from a Sharia perspective, taught comprehensively, particularly in pesantren situated in areas grappling with ecological crises.

Critiques from various researchers (Amri, 2014; Fikri dan Colombijn, 2021; Koehrsen, 2021) highlight the deficiency in climate change awareness among personnel within pesantren, including both ulama and santri. Nonetheless, it is noteworthy that pesantren in Indonesia are currently poised to address this global issue, equipped with grassroots-level environmental awareness, particularly evident in schools located in areas directly impacted by environmental degradation and global warming. These pesantren have evolved beyond centres exclusively dedicated to religious studies, acknowledging the inseparable connection between religious knowledge -serving as the core of their educational curriculum- and the imperative to maintain equilibrium between life and nature, fostering social conscientiousness. The cultivation of ecological piety should emerge as a robust identity and a foundational life principle for *santri*.

Favourable and supportive attitudes and behaviours constitute the anticipated responses stemming from the cultivation of ecological piety, which is collectively fostered within eco-pesantrens. Khunaepi (2023) demonstrates that the response from his *santri* thus far has been notably positive and highly supportive of environmental cleanliness initiatives. This enthusiastic *santri* support underscores the considerable influence of religion on the environmental consciousness of the younger generation. Research indicates that environmentalism among Muslim youth is primarily shaped by religious values, followed by biospheric, altruistic, and egoistic values (Rahman et al., 2021). The alignment of social awareness and ecological piety with a foundation in religious comprehension can potentially find smoother implementation when approached from a Sharia perspective. Islamic teachings unequivocally dictate that individuals who cause harm to nature are depicted as possessing closed hearts. This conviction is explicitly articulated in the Quran (Surah Al Baqarah: 11 and 12), denouncing those who harm nature as having traits contrary to the faithful believers.

Nevertheless, persistent challenges persist due to individuals who continue to exhibit a lack of awareness, particularly in matters of cleanliness. Two distinct groups stand out with diminished awareness regarding hygiene practises. The first group comprises individuals from external backgrounds, such as *santri* guardians and guests, whose attitudes and behaviours towards hygiene pose a challenge to regulate owing to their diverse daily routines and habits. Despite acknowledging and commending the cleanliness observed within pesantren, these individuals struggle to connect this cleanliness with broader environmental preservation efforts, including personal responsibility. In this context, pesantren reflects the prevalent characteristics prevalent in a significant segment of Indonesian society, a concern highlighted in several prior research studies citing low societal awareness (Renaldi, 2019; Fikri & Colombijn, 2021; Koehrsen, 2021). This prevailing attitude presents an external hurdle for pesantren seeking to implement *fiqh al-bi'ah*.

The second party that lacks awareness consists of the internal individuals within the pesantren. These particular *santri*, *ustadz*, or staff members are not overlooked, as their actions left unchecked could potentially disrupt the established system. Consequently, the pesantren implements various corrective measures, including reminders, monitoring, and providing guidance to these individuals. This supervisory and corrective action can be regarded as part of the effort to internalise social constructs through coercive means (Berger dan Luckmann, 1991).

The internalisation of environmental awareness within the Pesantren Salafi and Pesantren Darul Qolam illustrates the attainment of dual social functions within environmental communication (Kugo, 2022). The *kiai* effectively advocated for genuine environmentally friendly behaviour among all pesantren personnel. Furthermore, the environmentally conscious actions undertaken by the students signify the fulfilment of the second function of environmental communication: the shaping of perceptions and the construction of meaning.

In the context of the eco-pesantren, the perceptions and meanings cultivated underscore that environmentally friendly actions represent the rightful course to avert the detrimental impact of human activities on the earth. This aligns with the value-belief-norm theory, emphasising the responsibility of pesantren personnel as believers and stewards (*khalifah*) on earth in mitigating environmental harm, as posited by the norm activation

theory. The attainment of these two objectives is intricately linked to media strategies and communicators who utilise both traditional media and share power by empowering the *santri*.

## Conclusion

The *kyai* employs a process of awareness construction encompassing externalisation, objectification, and internalisation to cultivate attitudes and behaviours consistent with *fiqh al-bi'ah* in its entirety. Externalisation draws upon Quranic verses prohibiting environmental harm and underscores human responsibility as *khalīfah*, aligning with the principle of *al-naẓāfah min al-īmān* and the significance of *ṭahhārah* (purity) in Sharia implementation. Objectification becomes evident through unspoken norms orally transmitted by the *kyai*. Internalisation manifests through tangible activities, encompassing both routine practises within the pesantren and strategic endeavours external to it, such as local-scale water management and conservation efforts. This study holds practical implications for the broader application of *fiqh al-bi'ah* within the context of climate change adaptation and mitigation efforts.

This research shows the positive attitudes and behaviours of *kyai* in environmental preservation and the cultivation of ecological piety, despite existing limitations in the foundational knowledge of *fiqh al-bi'ah*. *Kyai* demonstrates an ability to ingeniously mobilise residents of pesantren, translating Islamic teachings into impactful actions that influence both the internal and external environments of these institutions. In tandem with this observation, essential backing from relevant entities such as the Ministry of Religion, Majelis Ulama Indonesia (MUI), and other religious organisations is imperative to provide financial support and training. This support aims to optimise the capacity of eco-pesantren in environmental management, particularly in establishing comprehensive water management systems with wide-reaching benefits for the local community.

It is important to acknowledge the limitation of this research in terms of sample size, as the study was conducted solely at two pesantren. A more extensive investigation encompassing a larger number of pesantren is recommended. Such comprehensive studies can offer a diverse and comprehensive portrayal of how the construction of ecological piety manifests within the pesantren.

## **Bibliography**

- Abdullah, M. (2010) 'Globalisasi dan Krisis Ekologi: Upaya Konservasi dalam Perspektif Fikih Lingkungan', *Ijtihad, Jurnal Wacana Hukum Islam dan Kemanusiaan*, 10(2), pp. 157–173. available at <https://doi.org/10.18326/ijtihad.v10i2.157-173>.
- Acim, S.A. and Suharti (2023) 'The Concept of Fiqh al-Bi'ah in the Qur'an: A Study of the Quranic Verses on Environment in the Ulama's Views of Lombok', *Ulumuna: Journal of Islamic Studies*, 27(1), pp. 115–140. available at <http://dx.doi.org/10.20414/ujis.v23i1.694>.
- Agustina, A. et al. (2020) 'Environmental Communication in Indonesian Television News Coverage', *Aspiration Journal*, 1(1), pp. 56–72.
- Ailah, M. and Ridwan, Muh. (2019) 'Aktualisasi Makna Al-Tuhuru Shatru Al-Iman melalui Bank Sampah dalam Meningkatkan Kesehatan Lingkungan', *Jurnal Ilmiah Mahasiswa Raushan Fiker*, 8(1), pp. 63–82. available at <https://doi.org/10.24090/jimrf.v8i1.3055>.
- Al-Buhūti, M. bin Y. bin I. (1997) *Kashshāf al-Qinā' bi Sharḥ Matn al-Īqnā'*. Beirut: 'Ālam al-Kutub.
- Amri, U. (2014) 'From theology to a praxis of "eco-jihad": The role of religious civil society organizations in combating climate change in Indonesia', in R. Veldman, A. Szasz, and R. Haluza-DeLay (eds) *How the world's religions are responding to climate change: Social scientific investigations*. 1st Edition. Routledge, pp. 75–93. available at <https://onlinelibrary.wiley.com/doi/10.1002/wcc.702> (Accessed: 6 February 2022).
- Arif, M. (2023) 'Studi Historis Konsep Kebersihan dalam Literatur Fikih Klasik dan Kontemporer', *Salimiya: Jurnal Studi Ilmu Keagamaan Islam*, 4(1), pp. 22–43.
- Bahri, S. (2018) 'Pesantren and the Development of Living Environment: The Study Concept of Eco-Pesantren in Pondok Pesantren An-Nur HA Rambigundam Jember', *International Journal of Management and Administrative Sciences (IJMAS)*, 5(10), pp. 43–54.
- Ben-Eli, M. (2018) 'Sustainability: definition and five core principles, a system perspective', *Sustainability Science*, 13, pp. 1337–1343. available at <https://doi.org/10.1007/s11625-018-0564-3>.
- Berger, P.L. and Luckmann, T. (1991) *The Social Construction of Reality*. Penguin Books.
- Bergman, C., Good, R. and Moreo, A. (2022) 'Influencing Hotel Patrons to Use Reef-

- Safe Sunscreen', *Tourism and Hospitality*, 3(3), pp. 536–557. available at <https://doi.org/10.3390/tourhosp3030033>.
- Bruhn, J. (2023) 'Towards an Intermedial Theory of Medial Agency: Environing Media', *European Review*, 31(S1), pp. S132–S147. available at <https://doi.org/10.1017/S1062798723000431>.
- Chang, C. (2021) 'Effects of Responsibility Appeals for Pro-Environmental Ads: When Do They Empower or Generate Reactance?', *Environmental Communication*, 15(4), pp. 546–569. available at <https://doi.org/10.1080/17524032.2021.1876132>.
- Efendi, D., Kurniawan, N. and Santoso, P. (2021) 'From Fiqh to Political Advocacy: Muhammadiyah's Ecological Movement in the Post New Order Indonesia', *Studia Islamika: Indonesian Journal for Islamic Studies*, 28(2), pp. 349–384. available at <https://doi.org/10.36712/sdi.v28i2.14444>.
- Fikri, I. and Colombijn, F. (2021) 'Is Green Islam going to support environmentalism in Indonesia?', *Anthropology Today*, 37(2), pp. 15–18. available at <https://doi.org/10.1111/1467-8322.12642>.
- Friedman, A.M. (2016) 'Perceptual Construction: Rereading *The Social Construction of Reality* Through the Sociology of the Senses', *Cultural Sociology*, 10(1), pp. 77–92. available at <https://doi.org/10.1177/1749975515615149>.
- Gade, A. (2012) 'Tradition and Sentiment in Indonesian Environmental Islam', *Worldviews: Global Religions, Culture, and Ecology*, 16(3), pp. 263–285.
- Gade, A. (2015) 'Islamic Law and the Environment in Indonesia', *Worldviews: Global Religions, Culture, and Ecology*, 19(2), pp. 161–183.
- Haeruzi, D. (2023), Personal Interview in Tangerang, 12 July.
- Hasba, I. and Mukhlis, A. (2018) 'Pesantren kopi: Empowerment of Raung slope community by Pesantren at-Tanwir Ledokombo Jember', in *Proceeding of International Conference on University-Community Engagement (ICONUCE) 2018. International Conference on University-Community Engagement (ICONUCE)*, UIN Maulana Malik Ibrahim Malang, pp. 374–390. available at <http://repository.uin-malang.ac.id/4386/>.
- Herdiansyah, H., Sukmana, H. and Lestarini, R. (2019) 'Eco-Pesantren as A Basic Forming of Environmental Moral and Theology', *KALAM*, 12(2), pp. 303–326. available at

<https://doi.org/10.24042/klm.v12i2.2834>.

- Hunt, K., Walker, G. and Depoe, S. (eds) (2019) *Breaking Boundaries: Innovative Practices in Environmental Communication and Public Participation*. Albany: State University of New York Press.
- Isbah, M.F. (2020) 'Pesantren in the Changing Indonesian Context: History and Current Developments', *QIJIS (Qudus International Journal of Islamic Studies)*, 8(1), p. 65. available at <https://doi.org/10.21043/qijis.v8i1.5629>.
- Jamil, S. (2022) 'Halal Wastewater Recycling: Environmental solution or religious complication?', in J. Koehrsen, J. Blanc, and F. Huber (eds) *Global religious environmental activism: Emerging conflicts and tensions in earth stewardship*. Routledge, p. forthcoming. available at <https://doi.org/10.4324/9781003017967>.
- Jenkins, W. (2005) 'Environmental Ethics: How Jurisprudence (usul al-fiqh) Mobilizes Practical Reform', *Worldviews: Global Religions, Culture, and Ecology*, 9(3), pp. 338–364. available at <https://doi.org/10.1163/156853505774841641>.
- Khunaepi, A. (2023), Personal Interview in Serang, 5 July.
- Koehrsen, J. (2021) 'Muslims and climate change: How Islam, Muslim organizations, and religious leaders influence climate change perceptions and mitigation activities', *WIREs Climate Change*, 12(3). available at <https://doi.org/10.1002/wcc.702>.
- Kugo, Y. (2022) 'Community Voices, Practices, and Memories in Environmental Communication: Iliamna Lake Yup'ik Place Names, Alaska', in A. Sjölander-Lindqvist, I. Murin, and M.E. Dove (eds) *Anthropological Perspectives on Environmental Communication*. Cham: Springer International Publishing (Palgrave Studies in Anthropology of Sustainability), pp. 103–125. available at [https://doi.org/10.1007/978-3-030-78040-1\\_5](https://doi.org/10.1007/978-3-030-78040-1_5).
- Maimunah et al. (2020) 'Environmental Jurisprudence Approach in Maslahat-Based Development', *IOP Conference Series: Earth and Environmental Science*, 456(1), p. 012086. available at <https://doi.org/10.1088/1755-1315/456/1/012086>.
- Maisah, M. et al. (2020) 'Noble Industry: Pendidikan Multikultural Pesantren dan Boarding School (Studi Terhadap Pesantren Salafy dan Madrasah Berasrama Non-Pesantren di Jambi)', *Jurnal Manajemen Pendidikan dan Ilmu Sosial*, 1(1), pp. 1–8. available at <https://doi.org/10.24042/klm.v12i2.2834>.

[doi.org/10.38035/jmpis.v1i1.118](https://doi.org/10.38035/jmpis.v1i1.118).

- Mangunjaya, F.M. (2011) 'Developing Environmental Awareness and Conservation Through Islamic Teaching', *Journal of Islamic Studies*, 22(1), pp. 36–49. available at <https://doi.org/10.1093/jis/etq067>.
- Maynard, E., Warhurst, A. and Fairchild, N. (2023) 'Covid-19 and the lost hidden curriculum: locating an evolving narrative ecology of Schools-in-Covid', *Pastoral Care in Education*, 41(3), pp. 325–345. available at <https://doi.org/10.1080/02643944.2022.2093953>.
- Mohamad, A.B. and Ismail, N. (2023) 'Environmental Preservation and Water Pollution from the Islamic Perspective', *Samarah: Jurnal Hukum Keluarga dan Hukum Islam*, 7(2), p. 997. available at <https://doi.org/10.22373/sjhc.v7i2.16019>.
- Mufid, M. (2018) 'Fikih Konservasi Laut: Relevansi Fiqh al-Bi'ah di Wilayah Pesisir Lamongan', *Al-Manabij*, 12(1), pp. 1–16. available at <https://doi.org/10.24090/mnh.v12i1.1356>.
- Mufid, M. (2020) 'Green Fatwas in Bahtsul Mas'ail: Nahdlatul Ulama's Response to the Discourse of Environmental Crisis in Indonesia', *al-Ihkam: Jurnal Hukum dan Pranata Sosial*, 15(2), pp. 173–200. available at <https://doi.org/10.19105/al-lhkam.v15i2.3656>.
- Muhamad, M.M., Abdullah, S.I.S.S. and Arsad, N.M. (2021) 'The Theocentric Worldview: Sustainability Education for Religion and Spiritual', *Jurnal Ilmiah Peuradeun*, 9(2), p. 275. available at <https://doi.org/10.26811/peuradeun.v9i2.587>.
- Munib, M. et al. (2022) 'Conservation Environmental Sustainability in The Perspective of Islamic Legal Philosophy', *Samarah: Jurnal Hukum Keluarga dan Hukum Islam*, 6(2), p. 556. available at <https://doi.org/10.22373/sjhc.v6i2.12411>.
- Najib, M. et al. (2020) 'Environmental Conservation Paradigm in islamic Ecological Perspective', *International Journal of Psychosocial Rehabilitation*, 24(4), pp. 5440–5447. available at <https://doi.org/10.37200/IJPR/V24I4/PR201640>.
- Rahman, N.A. et al. (2021) 'Why Do Muslim Youths Participate in Environmental Volunteering?: An Analysis of Values Orientation', *Worldviews: Global Religions, Culture, and Ecology*, 25(3), pp. 206–238. available at <https://doi.org/10.1163/15685357-20210801>.
- Renaldi, A. (2019) 'Indonesia Is Home to the Most Climate Change Deniers in the World',

*Vice*. available at <https://www.vice.com/en/article/a3x3m8/indonesia-is-home-to-the-most-climate-change-deniers-in-the-world>.

- Ridwan, M. (2013) 'Fiqh Ekologi: Membangun Fiqh Ekologis untuk Pelestarian Kosmos', *Mazāhib*, 12(2), pp. 150–161. available at <https://doi.org/10.21093/mj.v12i2.331>.
- Rusdi, M.A. (2017) 'Maslahat Sebagai Metode Ijtihad dan Tujuan Utama Hukum Islam', *DIKTUM: Jurnal Syariah dan Hukum*, 15(2), pp. 151–168. available at <https://doi.org/10.35905/diktum.v15i2.432>.
- Santoso, D. dan Asnawan (2023) 'Reviewing the Concept of Fiqh Al-Bi'ah in Law Enforcement Against Ecocide Performers in Indonesia', *Revista Relacoes Internacionais do Mundo Atual Unicuritiba*, 4(42), pp. 310–327.
- al-Shāfiī, M. bin I. (2001) *al-Umm*. Manṣurah: Dār al-Wafā'.
- Sobur, A. dan Mulyana, D. (2020) *Filsafat Komunikasi : Tradisi, Teori Dan Metode Penelitian Fenomenologi*. Bandung: Remaja Rosdakarya.
- Sprain, L. (2023) 'Facilitating Deliberative Play', *American Behavioral Scientist*, 67(8), pp. 982–1000. available at <https://doi.org/10.1177/00027642221093590>.
- Suhaimi, S. (2021) *Eko-Sufisme di Pesantren Studi Atas Konservasi Lingkungan di Pondok Pesantren Putri 1 Al-Amien Prenduan*. IAIN Madura.
- Sukarja, A. (2004) 'Sambutan di depan Peserta Pertemuan “Menggagas Fikih Lingkungan (Fiqh al-bi'ah)”', in A. Muhammad et al. (eds) *Fiqh Lingkungan (Fiqh al-Bi'ah)*. Indonesia Forest and Media Campaign (INFORM), pp. 5–9.
- Umam, M. (2017) *Pengelolaan Air Tanah oleh Pondok Pesantren Anwarul Huda Menurut Perda Kota Malang No. 8 Tahun 2006 tentang Pengelolaan Air Tanah dan Fiqh Lingkungan*. UIN Malana Malik Ibrahim.
- Wang, H. (2022) 'Knowledge or Responsibility? The Role of Media Use on Citizens' Willingness to Pay for Environment Governance', *Sustainability*, 14(21), p. 14538. available at <https://doi.org/10.3390/su142114538>.
- Westin, M., Hallgren, L. and Montgomerie, E. (2023) 'Between authority and argumentation: facilitators' use of power in collaborative governance', *Journal of Environmental Planning and Management*, pp. 1–20. available at <https://doi.org/10.1080/09640568.2023.2174835>.



Widadi, H. (2023), Personal Interview in Banten, 7 December.

Yusdani and Arfaizar, J. (2023) 'The Environmental Crisis in the Perspective of Contemporary Islamic Studies in Indonesia', *Russian Law Journal*, 11(5), pp. 412–427.

Zabidi, F.N.M., Abd Rahman, N. and Halim, L. (2021) 'Integration of Islamic Values for Environmental Conservation: An Analysis of School Textbooks', *Religions*, 12(7), p. 509. available at <https://doi.org/10.3390/rel12070509>.

