Contents list available at: https://journal.unesa.ac.id
al-Uqud: Journal of Islamic Economics
Journal homepage: https://journal.unesa.ac.id/index.php/jie

Sustainable water management via waqf: A case study from an Islamic boarding school in East Java

Jihan Nafisa[1*], Asfi Manzilati[2], Sri Muljaningsih[3], Muhammad Afnan Habibi[4]

[1,2,3]Department of Economics, Faculty of Economics and Business, University of Brawijaya, Indonesia
[4]School of Electronic and Electrical Engineering, Faculty of Engineering, University of Leeds, United Kingdom

Article Info

Paper type:
Research Paper

Keywords:
Waqf; Productive waqf; Sustainability; Islamic boarding school; Islamic Philanthropy

Article history:
Received: 02 January 2026
Revised: 15 July 2026
Accepted: 30 August 2026
Available online: 09 September 2026

Abstract

Islamic boarding schools (pesantren) in Indonesia play an essential role in religious education and community welfare, yet many face financial limitations that hinder their ability to provide basic facilities. Sustainable funding models are therefore needed to strengthen their operational resilience. Productive waqf offers a strategic mechanism to support essential services, including access to clean drinking water. This study analyzes the management of a waqf-funded drinking water filtration facility in a pesantren in Indonesia. Using a descriptive qualitative approach with a case study design, data were gathered through observations, interviews, and documentation. The results show that the waqf asset is managed through clear planning, structured utilization, and regular monitoring, which improves operational efficiency and reduces costs. The filtration facility enhances students' access to filtered drinking water while demonstrating how productive waqf can support sustainable service provision. The study highlights the economic and managerial relevance of waqf-based initiatives for strengthening institutional sustainability in Islamic education, and links these findings to Sustainable Development Goal 6 (Clean Water and Sanitation) and Sustainable Development Goal 4 (Quality Education).

*Corresponding author: jihannyusuf@gmail.com
Please cite this article in APA style as:
Nafisa, J., Manzilati, A., Muljaningsih, S., Habibi, M.A. (2026). Sustainable water management via waqf: A case study from an Islamic boarding school in East Java. Al-Uqud : Journal of Islamic Economics, 10(1), 1–17 https://doi.org/10.26740/al-uqud.v10n1.p1-17

Introduction

Islamic boarding schools (*pesantren*) have played a crucial role in the history of the development and growth of Islam and the Indonesian nation from the past to the present (Isbah, 2020). As traditional Islamic institutions, *pesantren* were established to promote religious

ISSN: 2548-3544 (online), 2549-0850 (print)
DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

devotion, social cohesion, and a strong spirit of mutual cooperation among all levels of society (Anggadwita et al., 2021). The community contributed assets such as waqf land, building materials, food supplies, intellectual contributions, and labor (Sabila et al., 2024). The community's respect for religious leaders as role models adds meaning to the process of establishing *pesantren* (Hadiyanto et al., 2023).

Pesantren play an important role in disseminating religious values, knowledge, piety, and moral character among students. Beyond their religious function, *pesantren* have historically served as centers of social transformation, producing generations of religious leaders, educators, and community figures who shape socio-religious life at the grassroots level (Hambari et al., 2026). They also function as agents of community empowerment, often extending their influence into local economic activities such as agriculture, small-scale enterprise, and cooperative initiatives that support the surrounding communities (Mutmainah et al., 2023). According to data from Kemenag RI (2022), there are approximately 36,600 *pesantren* with a total of 3.4 million students across Indonesia. Sustaining educational and social services across such a large institutional network requires substantial and continuous financial resources. Despite their strategic role, many pesantren face structural financial challenges due to the lack of sustainable and long-term funding sources (Sholihuddin, 2025).

Most *pesantren* rely heavily on student tuition fees, irregular donations, and short-term philanthropic contributions, which are often insufficient to support institutional development, infrastructure improvement, and service expansion (Hadiyanto et al., 2023). This financial dependency limits their capacity to grow, scale productive activities, and maintain financial resilience, especially in responding to increasing educational and social demands from the community (Alhifni et al., 2026). Without a stable and self-generating source of income, *pesantren* remain vulnerable to fluctuations in donor generosity and enrollment-driven revenue, which in turn constrains long-term planning for essential facilities such as clean water access, health services, and learning infrastructure. This structural funding gap underscores the need for financing instruments capable of generating recurring, self-sustaining benefits rather than one-off or short-term support (Anwar et al., 2023).

To address this challenge, the management and development of productive waqf emerge as a potential solution that enables *pesantren* to optimize existing resources in a sustainable manner. Empirical evidence from *pesantren*-based micro-waqf bank initiatives demonstrates that productive waqf can be transformed into a functioning economic empowerment mechanism, generating recurring financing streams for the surrounding community while embedding *maqāṣid*-based institutional values into *pesantren*'s economic practice (Andayani et al., 2025; Ascarya, 2024). Unlike consumptive donations, productive waqf allows endowed assets to be managed and developed so that they continuously generate economic returns (Anwar et al., 2023). These returns can then be reinvested to support operational costs, improve educational facilities, and expand social services, thereby providing long-term benefits for both the institution and the surrounding community (Iskandar et al., 2023). In this context, waqf functions not only as a religious philanthropic instrument but also as an alternative and strategic source of sustainable financing for *pesantren* development, precisely because its underlying assets are preserved in perpetuity while their yields are continuously reinvested into institutional operations (Triyawan et al., 2023).

In the history of Islamic society, waqf has played a very important role in various aspects of life. Waqf is often understood as a fixed asset for religious purposes, but its scope extends to the utilization of movable assets (Kachkar, 2017), for economic development and social welfare (Triyawan et al., 2023). Lamido & Haneef, (2021), state that since the time of the Prophet Muhammad and his companions, productive waqf assets, including plantations and wells, have historically been used to promote community welfare. With the passage of time, it has become possible for waqf management to contribute more broadly to society, both spiritually and socio-economically.

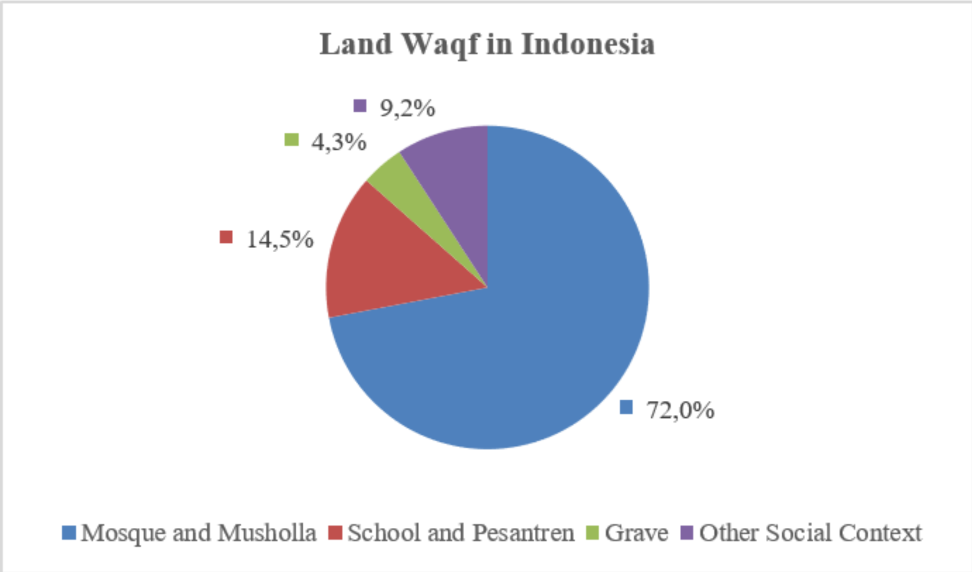

Figure 1. Land Waqf in Indonesia

As shown in Figure 1, according to Kemenag RI (2022), Indonesia manages a total of 57,263.69 hectares of waqf land spread across 440,512 registered locations. This scale reflects the substantial asset base available for supporting social and economic development through waqf instruments. In terms of financial waqf, Kemenag RI (2022) also reports a significant disparity between potential and actual collection. While the estimated potential of cash waqf reaches approximately IDR 180 trillion, the realized amount remains only about IDR 2.3 trillion. This wide gap indicates structural constraints, particularly limited waqf literacy, low community participation, and suboptimal management capacity, all of which continue to hinder the full economic utilization of Indonesia's waqf assets.

Literature Review

Productive waqf within Indonesia's national regulatory framework, Islamic perspectives, and implications for social welfare

In Indonesia, productive waqf is governed by Law No. 41 of 2004 concerning Waqf, which stipulates that waqf assets must be managed and developed in accordance with Sharia principles to serve both religious and broader social purposes (Iskandar et al., 2021). Proceeds generated from waqf management may be allocated to purposes specified in the *Akta Ikrar Wakaf* (waqf pledge deed), including community welfare, education, and other social activities. The Law also provides *nazhir* (waqf trustees) with considerable scope to manage and develop waqf assets through various mechanisms, including investment and partnerships, provided that these activities comply with Sharia principles (Ratnasari et al., 2023). With this provision, it is hoped that waqf will not only be an unmanaged asset but can provide tangible benefits to the community and religious institutions.

Productive waqf is managed transparently, accountably, and professionally by the *nazhir* (Mutmainah et al., 2025), and can take the form of property, food, and other assets that can create a sustainable source of income for the welfare of the community (Muthoifin & Firdaus, 2020). The concept of productive waqf in Islam integrates not only spiritual values but also social values, functioning not only as a charitable deed but also as an instrument to improve

ISSN: 2548-3544 (online), 2549-0850 (print)
DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

the welfare of the people (Muneeza et al., 2024). Productive waqf assets are managed strategically to generate profits, which are then distributed to those who are entitled to them or allocated for social purposes (Timur et al., 2025). Thus, productive waqf plays an important role in supporting the sustainable economic welfare of the community.

In Islamic history, productive waqf has been exemplified by the companions of the Prophet Muhammad SAW, including Umar bin Khattab ra, who donated land in Khaibar known as Samagh, as well as a house for his son in Medina; to this day, the waqf in Khaibar is used for date palm gardens. In addition, the companion Uthman bin 'Affan endowed the Raumah well, the benefits of which are still maintained today, as narrated in the hadith of Nasai, Tirmidhi, and Bukhari. Ali bin Abi Talib also endowed property in Yanbu and Khaibar, followed by Mu'az bin Jabal, Asma bint Abi Bakar, and the wives of the Prophet such as Ummu Salamah, Shafiyah bint Hayi, and Ummu Habibah, who endowed their houses in Medina. Zubair bin Awwam endowed houses for his descendants in Medina, Egypt, and Mecca, while Khalid bin Walid endowed his wealth and weapons of war, and Anas bin Malik endowed a house in Medina (Badan Wakaf Indonesia, 2023). The practice of waqf is firmly rooted in Islamic teachings. One of the Qur'anic foundations commonly associated with waqf is found in Surah Ali 'Imran (3:92), in which Allah SWT states: “Never will you attain the good [reward] until you spend [in the way of Allah] from that which you love. And whatever you spend—indeed, Allah is Knowing of it.”

According to the *asbabun nuzul* narrated by Ibn Abi Haitam from Ibn Abbas, some companions of the Prophet Muhammad SAW used to buy food at low prices to give in charity, or donate items that they no longer liked; this verse was revealed as guidance for them regarding the correct actions in giving charity or donations. The argument for endowment is also stated in Q.S. Al-Baqarah: 267, which contains Allah's command to spend or endow part of one's good, clean, and halal earnings, not from something of little value or undesirable, as a form of obedience and gratitude to Allah for all the blessings He has given. In addition, in Q.S. Al-Hajj: 77, Allah also commands doing good, including spending wealth for the welfare of the people; many scholars agree that this should be understood as a command to give waqf, because waqf is a form of charity that provides long-term benefits to the community and becomes a source of continuous reward (Elmahgop et al., 2025).

The implications of productive waqf are not only limited to spiritual aspects, but also have a real impact on socio-economic activities. Listiana et al., (2025), explain that productive waqf plays an important role in increasing access to social services, creating jobs, and empowering the community. Productive waqf serves as a source of sustainable funding for the education, health, and infrastructure sectors, while also contributing to job creation (Huda et al., 2025). In addition to providing direct benefits to individuals in need, productive waqf also prevents social disputes and reduces the gap between the rich and the poor. Islamic principles of empowerment such as *ukhuwwah* (brotherhood), *ta'awun* (mutual assistance), and equal rights are effectively applied in this waqf system, which also supports the development of science by establishing schools and foundations that improve the knowledge and skills of the community.

Thematic synthesis of productive waqf practices across countries and sectors

Beyond Indonesia, productive waqf has become a significant economic instrument in several Muslim-majority countries. Rather than describing each country in isolation, this section synthesizes the cross-country evidence around three recurring themes: (a) productive waqf governance structures, (b) waqf for public infrastructure and essential services, and (c) sustainable institutional financing through waqf.

(a) Productive waqf governance. A common feature across the reviewed countries is the presence of a centralized authority mandated to govern waqf assets according to sharia principles while retaining flexibility to engage commercial partners. In Saudi Arabia, the High Council of Waqf, chaired by the Minister of Hajj and Waqf, has the authority to determine strategic steps in waqf development and to allocate proceeds, most of which support the maintenance of the Grand Mosque and the Prophet's Mosque, with the remainder financing education and social activities (Elmahgop et al., 2025). In Jordan, the Wizratul Awqaf (Ministry of Waqf and Islamic Affairs) executes waqf in the field and is authorized to conduct commercial transactions with third parties, provided these do not violate the donor's (*waqif*) conditions, and collaborates with third parties through investment contracts (Ishak et al., 2025). In Singapore, the Islamic Religious Council of Singapore (MUIS) similarly governs waqf assets and involves professional institutions and modern investment approaches, including partnerships with financial institutions (Listiana & Alhabshi, 2020; Nasar et al., 2020). Across these cases, effective governance combines centralized sharia oversight with professionalized, partnership-based asset management, a pattern that is echoed, albeit at a much smaller institutional scale, in the *nazhir*-based governance structure examined in this study.

(b) Waqf for public infrastructure and essential services. Several country cases illustrate how productive waqf assets are deployed to meet essential public needs. Waqf assets in Jordan include plantations and farms with thousands of olive, grape, date, and almond trees, places of worship, and tombs, with proceeds used for poverty alleviation, health assistance for the poor, scholarships, and support for mosque imams (Ishak et al., 2025). In Singapore, the Bencoolen Waqf project, an office and retail complex built on waqf land exemplifies a model of modern waqf management that combines commercial property with social objectives, with proceeds supporting social activities, mosque maintenance, and Islamic education (Listiana & Alhabshi, 2020). MUIS also maintains a broader portfolio of commercial properties, such as office buildings and shopping centers, used to finance social, education, and religious programs, including scholarships and financial assistance for Muslims in need (Owais & Manaf, 2023; Pirmani et al., 2024). Al-Azhar University in Egypt likewise relies on productive assets such as hospitals, apartments, hotels, and plantations to finance free education for tens of thousands of students (Yakubu & Isbahi, 2022; Don & Hussin, 2024). Notably, none of these cases directly integrates the provision of a specific essential service, such as filtered drinking water, into the productive waqf asset itself; they instead rely on commercial or agricultural assets whose proceeds are subsequently redirected to fund essential services. This distinction highlights the novelty of the water filtration waqf examined in the present study, in which the asset itself is the essential service.

(c) Sustainable institutional financing. Across Saudi Arabia, Jordan, and Singapore, sustainable financing outcomes are consistently associated with three factors: (i) diversified, income-generating asset portfolios rather than single, static assets; (ii) formal partnerships with professional or financial institutions to develop those assets; and (iii) a clear, rules-based allocation of proceeds toward welfare and education. The success of waqf management in these jurisdictions is frequently cited as a benchmark for other countries seeking to develop the potential of productive waqf to contribute to welfare (Owais & Manaf, 2023; Pirmani et al., 2024). However, these models are largely observed at the national or metropolitan scale and managed by dedicated statutory bodies. Comparatively little is known about how similar governance and financing logics can be replicated at the scale of a single educational institution such as a *pesantren*, which is the empirical gap this study addresses.

Conceptual framework

ISSN: 2548-3544 (online), 2549-0850 (print)
DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

Synthesizing the regulatory review and the cross-country thematic synthesis, from the section before, this study proposes a conceptual framework linking productive waqf management, governance processes, and sustainability outcomes (Please see in figure 2). The framework posits that a waqf asset endowment is operationalized through governance processes, planning, utilization, monitoring, and reporting, that are themselves shaped by the institutional context, including national regulation (Law No. 41 of 2004) and global development targets such as SDG 4 and SDG 6. These governance processes are expected to generate accountability and transparency toward the donor and other stakeholders, which in turn produce two interrelated outcomes: institutional financial sustainability and social welfare outcomes for beneficiaries. Where these outcomes are jointly achieved, the resulting model becomes potentially replicable to other Islamic educational institutions. This framework guides the empirical analysis presented in the results and discussion sections, which examine the extent to which the productive waqf initiative at *Pesantren* Putri Al Aziziyyah follows this logic.

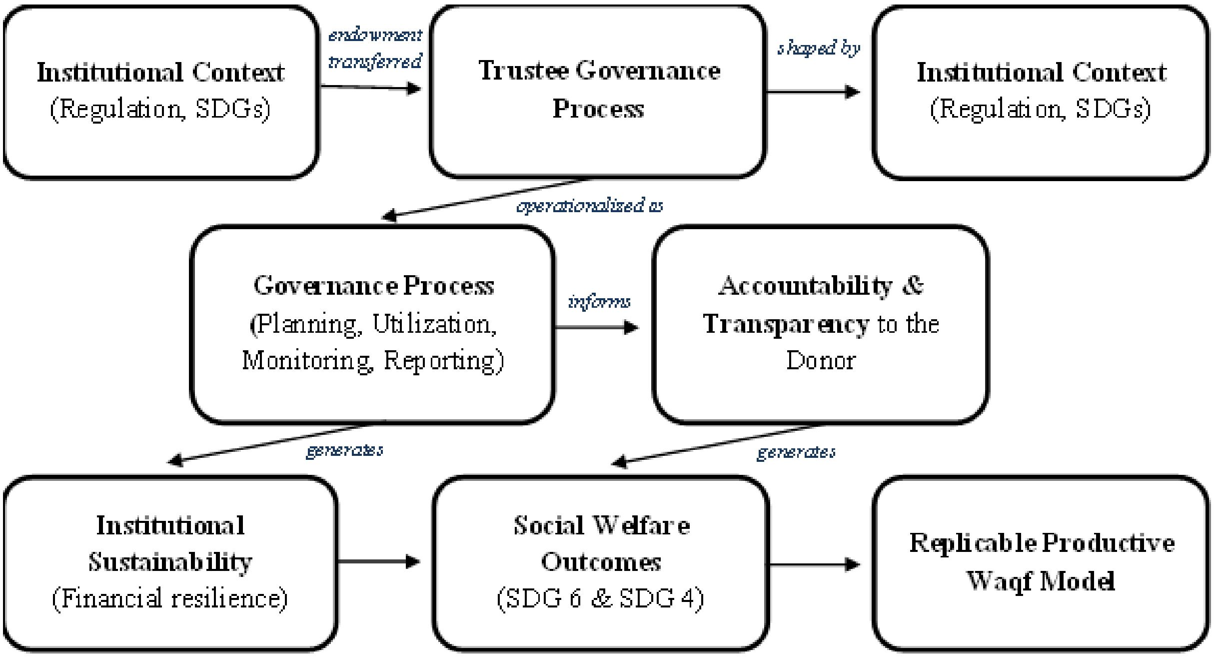

Figure 2. Conceptual framework: productive waqf management, governance, and sustainability outcomes

Methodology

This study employed a descriptive qualitative approach with a case study design to provide an in-depth understanding of productive waqf management at Pesantren Putri Al Aziziyyah. This approach aimed to obtain comprehensive and context-specific information by examining the phenomenon within a specific institutional setting based on the collected data. The data sources in this study consisted of primary and secondary data. Primary data were obtained through observation, documentation, and interviews with informants who were directly involved in the management, distribution, and utilization of productive waqf at Pesantren Putri Al Aziziyyah. A purposive sampling technique was employed to ensure that the selected informants possessed relevant knowledge and experience aligned with the research objectives.

Based on Faifua, (2014), the informants were classified into three categories: (a) key informants, who possessed in-depth and strategic knowledge of the phenomenon under study, particularly its initiation, objectives, and overall framework; (b) main informants, who were directly responsible for managing and operating the productive waqf asset; and (c) supporting informants, who did not participate directly in its management but provided information on the utilization and perceived benefits of the program from the beneficiaries' perspective. Table 1 presented the profiles of the seven informants, including their positions, approximate lengths of involvement, and relevance to the study. Informant names were withheld and replaced with codes to protect confidentiality.

Table 1. Profile of research informants

Code	Category	Position / Role	Length of Involvement	Relevance to the Study
P1	Key informant	The donor and initiator of the productive waqf program	Involved since the initiation of the waqf in March 2024	Provided rationale, objectives, and initial design of the waqf asset
P2	Main informant (*nazhir*)	Caretaker / *pesantren* leadership	Involved since the *pesantren* was founded	Directly responsible for strategic decisions on waqf management
P3	Main informant (*nazhir*)	Administrative staff	Involved since 2022	Directly responsible for day-to-day financial administration and reporting
P4	Main informant (*nazhir*)	Operational / maintenance staff	Involved since 2023	Directly responsible for equipment operation, monitoring, and maintenance
P5	Supporting informant	Junior/senior high school student (*santri*)	Resided at the *pesantren* for 2-3 years	Beneficiary perspective on utilization and perceived benefits
P6	Supporting informant	Junior/senior high school student (*santri*)	Resided at the *pesantren* for 2-3 years	Beneficiary perspective on utilization and perceived benefits
P7	Supporting informant	Junior/senior high school student (*santri*)	Resided at the *pesantren* for 2-3 years	Beneficiary perspective on utilization and perceived benefits

Source: Authors' own work

Secondary data were obtained from previous studies, books, regulatory documents, and official websites of waqf institutions, including Badan Wakaf Indonesia, to support and triangulate the primary findings. Data analysis was conducted following Miles & Huberman (2014), and comprised three activities: data reduction, data presentation, and conclusion drawing. The analysis was primarily inductive, allowing patterns and themes to emerge from the data rather than imposing a predetermined coding scheme. The resulting themes were subsequently interpreted and cross-checked against the conceptual framework.

More specifically, the analysis proceeded in four stages. First, all interview recordings were transcribed verbatim and read repeatedly for familiarization. Second, open coding was applied line by line to the transcripts and field notes to identify recurring concepts (e.g., “monitoring practice,” “fund allocation,” and “transparency to donor”). Third, related open codes were grouped into higher-order categories and organized into themes related to asset governance, utilization and distribution, sustainability planning, and challenges. These themes were subsequently cross-checked against the conceptual framework. Fourth, the themes were

 al-Uqud: Journal of Islamic Economics ISSN: 2548-3544 (online), 2549-0850 (print)
Volume 10 Issue 01, January 2026 DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

refined through constant comparison across informants and data sources until the findings stabilized. To enhance the credibility of the findings, source triangulation was applied by comparing information obtained from key, main, and supporting informants and by cross-referencing interview data with documentary evidence, including the *Akta Ikrar Wakaf* and financial records. This approach helped ensure the accuracy and consistency of the findings and reduced the potential for bias arising from reliance on a single source of information.

Result and Discussion

Implementation and acceptance of the productive waqf asset

Pesantren Putri Al Aziziyyah, established in 1983 in Jombang-Indonesia, has increasingly developed initiatives to strengthen its institutional sustainability, including through productive waqf. One of the key waqf assets received is a set of drinking water filter equipment endowed in March 2024. Interviews and document analysis indicate that the waqf asset was donated in response to the institution's limited access to clean and ready-to-consume drinking water; this condition encouraged the donor to provide water filtration equipment as a form of productive waqf intended to support daily activities and improve students' welfare. According to P1, the initiative originated from the donor's visit to the *pesantren*, during which the need for adequate drinking water facilities was identified. This account was subsequently confirmed by P2, indicating a shared understanding of the circumstances that led to the waqf donation.

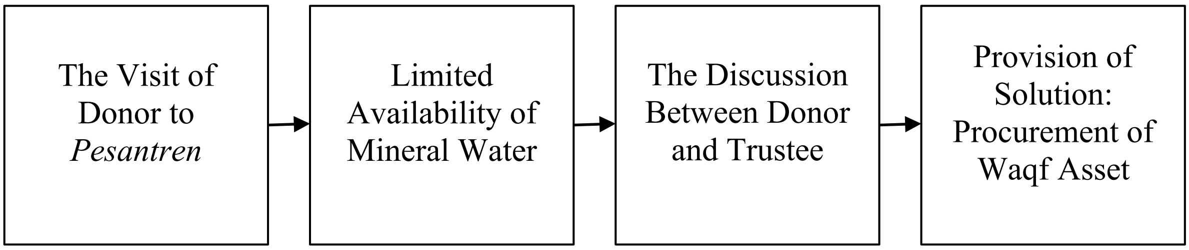

Figure 3. Framework for the Procurement of Drinking Water Filter Equipment

Based on the *Akta Ikrar Wakaf*, the purpose of the waqf is to ensure the continuous availability of filtered drinking water for the boarding school community. Figure 3 illustrates the operational framework through which this productive waqf initiative was established, comprising four sequential stages: (1) identification of institutional needs through the donor's engagement with the pesantren; (2) recognition of limited mineral water availability as the core problem; (3) deliberation between the donor and the *nazhir* to determine an appropriate waqf-based solution; and (4) procurement of the drinking water filter equipment as a productive waqf asset. Following procurement, the asset is managed and utilized to generate two categories of returns: social returns, reflected in improved access to filtered drinking water for students and staff, and economic returns, which contribute to reducing operational costs and supporting the sustainability of *pesantren* activities. Through this structured process, the framework shows how productive waqf transitions from asset endowment into a functional mechanism that enhances institutional efficiency and promotes long-term community welfare.

Optimization of the filtered drinking water filter equipment

The drinking water filter equipment has been utilized by the boarding school community, including students at both junior and senior high school levels. Prior to the waqf asset, students relied on bottled water costing around IDR 500 per cup; under the current arrangement, the same daily contribution grants unlimited access to filtered drinking water. Observation data show that the operational model, in which students contribute a small daily fee, is in place, and a dedicated management team, mandated in the *Akta Ikrar Wakaf*, is responsible for maintenance, quality control, and operational oversight. The utilization of the waqf asset was confirmed by P2, who stated:

> "The drinking water filter is used by all members of the boarding school, including junior and senior high school students, and it has become part of their daily routine."

Meanwhile, P4 emphasized the economic benefit generated through the utilization scheme:

> "Previously, students had to buy filtered drinking water, but now they can access filtered drinking water every day with the same contribution. This has reduced their daily expenses while ensuring continuous access to filtered drinking water."

Management of drinking water filter equipment and distribution of productive waqf results

During the first seven months of operation, the drinking water filter generated a fluctuating monthly revenue stream. As illustrated in Figure 4, periods of decline in revenue correspond to school holidays and temporary decreases in student presence, while months with rising student numbers or the return of students from holidays show a noticeable increase in revenue.

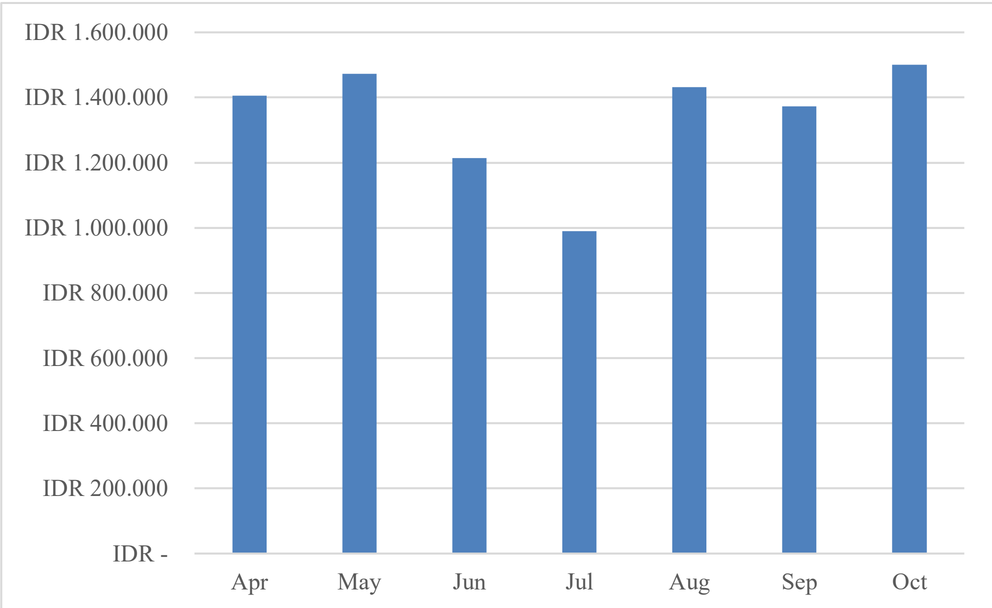

Figure 4. Monthly revenue generated by the drinking water filter waqf

Full operation of the drinking water filter is handled by a designated waqf management team trained by the donor's technical experts. Routine maintenance, including cleaning and monitoring of the filtration system, is carried out to keep the asset functional. In cases where technical issues exceed the internal team's capacity, the boarding school receives additional expert assistance from the donor. Operational expenses, such as electricity consumption, are integrated into the institution's overall utility costs, while maintenance expenses are to be sourced from the waqf management fund once required; to date, no significant repair costs have been incurred because the equipment is relatively new. As explained by P3, the management team received technical training from the donor prior to operating the equipment, enabling them

ISSN: 2548-3544 (online), 2549-0850 (print) DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

to conduct routine maintenance independently while relying on the donor only for more complex technical issues.

Daily operations, including usage monitoring and the collection of payments, are documented and compiled into routine financial reports. These reports are submitted to the boarding school's caretaker for verification, followed by a weekly internal audit. Transparency to the general public has not yet been implemented, although the donor continues to receive periodic updates. P4 confirmed this reporting mechanism, stating:

> "All daily transactions are recorded in the financial logbook and reported to the boarding school's caretaker. The reports are then reviewed through weekly internal evaluations, while the donor also receives periodic updates regarding the management of the waqf asset."

Distribution of productive waqf results

According to the *Akta Ikrar Wakaf*, all proceeds generated from the drinking water filter are designated to support the financial needs of the boarding school. The distribution of waqf-generated funds over the seven-month period is shown in Figure 5. The waqf proceeds were allocated with a clear prioritization scheme: 57.52% directed toward tuition fee assistance for eligible students, 41.54% used to support kitchen and food supply needs, and 0.94% reserved as an emergency operational fund. P4 confirmed that this allocation reflects the boarding school's priority to balance educational support with essential operational expenditures, particularly student tuition assistance and kitchen needs.

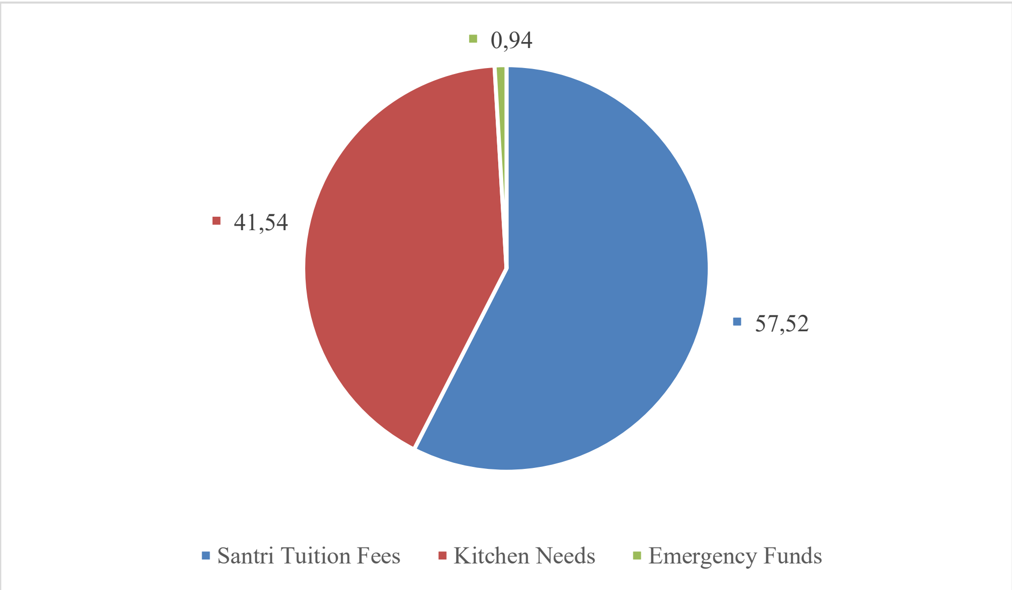

Figure 5. Allocation of Proceeds Generated by the Waqf Asset

The tuition assistance is disbursed at the beginning of each semester, with each eligible student receiving IDR 1.8 million. As explained by P6, recipients are selected based on academic performance and are required to maintain satisfactory academic achievement while actively participating in institutional activities throughout the assistance period. In addition, P5 noted that scholarship recipients are expected to serve the boarding school for at least one year after graduation as a form of contribution and sustainability mechanism. This mechanism is illustrated in Figure 6.

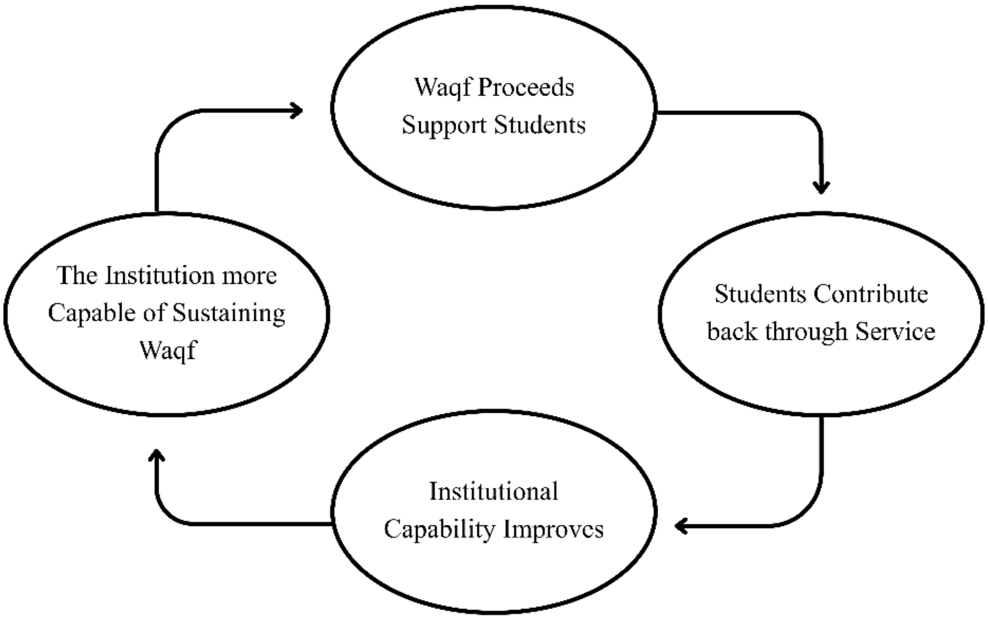

Figure 6. Waqf sustainability cycle

The allocation for kitchen needs, ranging from IDR 500,000-700,000 per month, contributes to the operational stability of daily food provision, as also confirmed by P4, who explained that these funds are routinely used to support food procurement and other kitchen-related operational expenses.

Long-term sustainability planning

The long-term development plan for the drinking water filter waqf is directed toward strengthening the economic independence of the pesantren while expanding its socio-economic benefits to the surrounding community. According to P1, the institution plans to obtain the necessary permits to produce affordable filtered drinking water (Air Minum dalam Kemasan/AMDK), positioning this initiative as an extension of the waqf's utility and as an entry point into a sustainable micro-industry. Income generated from product sales is intended to be allocated to priority needs such as improving educational infrastructure, upgrading student facilities, enhancing kitchen and sanitation utilities, as well as creating employment opportunities for students, alumni, and local residents in production, distribution, and marketing activities. Surplus profits are planned to be reinvested in social objectives, particularly subsidizing educational expenses for underprivileged students. This long-term vision was also supported by P2 and P7, who expressed the expectation that the initiative would not only strengthen the *pesantren*'s financial independence but also create wider benefits for students and the surrounding community through employment opportunities and expanded social programs. This operational arrangement illustrates an efficient structure in which human capital investment, provided through training, reduces long-term maintenance costs and minimizes operational disruptions. Furthermore, the absence of unnecessary administrative layers ensures that the waqf proceeds are channeled directly toward welfare-enhancing uses.

Evaluation and challenges

The evaluation of productive waqf management is carried out monthly by the waqf management team together with the *pesantren*'s caretakers, covering financial administration, equipment performance, and the efficiency of fund allocation for kitchen needs and student tuition support.

ISSN: 2548-3544 (online), 2549-0850 (print) DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

According to P3, these evaluations also include reviews of financial records, operational performance, and routine equipment maintenance. P3 further explained that, although the management team has received technical training from the donor, it continues to strengthen its technical and managerial capacity through ongoing guidance from the donor's technical experts. A key challenge lies in the limited availability of skilled human resources capable of managing waqf assets at a larger operational scale. Financial discipline also remains an issue: delays in student payments for mineral water can disrupt cash flow and reduce the efficiency of financial planning within the waqf system. Although reports on fund utilization are already prepared, the caretakers seek to further strengthen disclosure practices to build trust with the donor and other stakeholders.

Discussion

Governance and regulatory compliance

The management system implemented for the drinking water filter waqf demonstrates an effort toward structured and accountable asset governance, despite still operating with relatively simple administrative tools. This practice reflects internal accountability but has not yet fully aligned with the reporting standards mandated in BWI Regulation No. 01 of 2020, which requires *nazhir* to submit a formal report every six months; public transparency has also not yet been implemented. This partial compliance illustrates a broader pattern noted in the literature review: Indonesian regulation grants *nazhir* wide latitude to manage and invest waqf assets, but realizing the full accountability envisioned by that framework, and by more centralized models such as MUIS in Singapore (Listiana & Alhabshi, 2020), still requires stronger reporting infrastructure than a small *pesantren*-based *nazhir* currently possesses. The revenue elasticity documented, in which income tracks student population dynamics, reinforces the importance of precise forecasting for financial planning and indicates that, unlike the diversified national-scale portfolios described in literature review (e.g., Jordan's plantations, Singapore's commercial property portfolio), a single-asset, service-based waqf model is more exposed to demand-side fluctuations, a trade-off against its advantage of directly meeting an essential need.

Economic and welfare outcomes

The cost-saving outcome for students, from paying per cup of bottled water to unlimited access at the same daily cost, reflects an effective reduction in marginal daily expenditure and an improvement in the *pesantren's* internal capacity to meet a basic consumption need, consistent with the productive-waqf literature's emphasis on reduced dependency on external suppliers (Muthoifin & Firdaus, 2020). Similarly, the operational arrangement in which human capital investment (staff training by the donor's technical experts) substitutes for costly external maintenance illustrates an efficient governance structure that channels waqf proceeds directly toward welfare-enhancing uses rather than administrative overhead.

The distribution of waqf proceeds described above aligns with the central objective of productive waqf: maximizing social welfare. The allocation is also consistent with the distribution guidance provided by the BWI, which recommends that at least 50% of net waqf proceeds be allocated to the beneficiaries (*mauquf 'alaih*). In addition, Article 12 of Law No. 41 of 2004 permits the *nazhir* to receive compensation of up to 10% of the net proceeds from the management and development of waqf assets. In the present case, however, the *nazhir* chose not to receive this permissible compensation, allowing a greater proportion of the proceeds to be directed toward beneficiary-oriented purposes. This practice reflects a value-driven approach that prioritizes social welfare over administrative remuneration and potentially enhances the developmental impact of the waqf initiative. This finding is broadly consistent with the pattern observed in Jordan and Singapore, where waqf proceeds are similarly directed toward scholarships and welfare assistance, even though the Al Aziziyyah case operates at a substantially smaller institutional scale.

From a human-capital perspective, the tuition-assistance mechanism, tied to minimum academic performance and a post-graduation service obligation, forms a circular benefit structure that reinforces both student welfare and the institution's long-term sustainability, echoing the framework's proposition that governance processes generate simultaneous financial-sustainability and social-welfare outcomes.

Sustainability, replicability, and alignment with the SDGs

Taken together, the results indicate that even a relatively low-cost asset, when governed effectively, can generate meaningful financial benefits and strengthen institutional resilience: the drinking water filter waqf reduces daily expenditure burdens for students, enhances the boarding school's economic independence by lowering reliance on external water suppliers, and improves liquidity for essential operational activities such as food provision and tuition support. This dual contribution, to clean water access and to continued access to education, provides empirical, institution-level evidence in support of SDG 4 and SDG 6, complementing macro-level assessments of waqf's contribution to these goals. With the introduction of systematic reporting improvements, digital bookkeeping tools, and greater transparency, this model has the potential to evolve into a scalable and replicable example of sustainable water management through waqf-based financing for other *pesantren* facing similar structural funding constraints.

Impact of the Waqf Procurement

The procurement of drinking water filter equipment through waqf has generated substantial positive impacts on the economic and operational stability of *Pesantren* Putri Al Aziziyyah. According to P4, the revenue generated from the productive waqf has improved the boarding school's financial stability by providing a more consistent source of funds to support operational needs and educational assistance. This more predictable and sustainable revenue stream has strengthened institutional liquidity and enabled the *pesantren* to plan future business expansions with greater financial confidence. From the beneficiaries' perspective, P7 explained that the availability of affordable drinking water has reduced the financial burden on students' families, particularly those from lower-income backgrounds, while ensuring continuous access to filtered drinking water within the boarding school and fostering a greater sense of independence and responsibility among students. In the longer term, effective management of this waqf asset has the potential to generate sustainable economic and social value.

Conclusion

This study concludes that the management of the drinking water filter equipment waqf at *Pesantren* Putri Al Aziziyyah has strengthened the institution’s economic resilience and contributed to improving student welfare. The productive waqf asset reduces operational dependence on external water supplies while generating a steady financial stream that supports essential needs, including food provision and tuition assistance. The structured management system established by the institution also reflects a growing awareness of governance, sustainability, and social responsibility in waqf administration. Furthermore, the integration of student support programs with post-graduation service obligations demonstrates how productive waqf can contribute to human capital development within Islamic educational institutions. Beyond this specific case, the study extends the productive waqf literature beyond conventional assets such as land, buildings, and agriculture by demonstrating an essential-service model in which clean water provision itself functions as a productive waqf asset. The study further proposes an empirically grounded conceptual framework linking waqf governance processes to institutional sustainability and social welfare, while providing institution-level

ISSN: 2548-3544 (online), 2549-0850 (print)
DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

evidence of productive waqf's contribution to SDG 4 (Quality Education) and SDG 6 (Clean Water and Sanitation).

Practical Implication

The findings offer several practical implications for *pesantren, nazhir*, and other institutions managing productive waqf assets. *Pesantren* should strengthen compliance with national waqf regulations by improving reporting mechanisms, audit procedures, documentation standards, and transparency toward stakeholders. Continuous capacity-building for *nazhir*, particularly in financial management, governance, and the technical maintenance of productive waqf assets, is also essential to ensure their long-term sustainability. Furthermore, the findings demonstrate that productive waqf can be strategically integrated with institutional welfare programs rather than being managed merely as an income-generating asset. Revenue generated from productive waqf can support educational and basic student needs while simultaneously strengthening institutional financial resilience. Future expansion initiatives, including the planned production of bottled drinking water (AMDK), should therefore be supported by comprehensive feasibility studies, risk assessments, and strategic business planning to ensure economic viability without compromising the social objectives of the waqf.

Study Limitation and Future Research Recommendation

This study has several limitations. First, as a single-case qualitative study focusing on *Pesantren* Putri Al Aziziyyah, the findings are highly context-specific and may not be fully generalizable to other *pesantren* or Islamic educational institutions with different organizational structures, financial capacities, governance arrangements, and productive waqf models. Second, the analysis relies primarily on interviews and document reviews, which may limit the ability to objectively quantify the economic and social outcomes generated by the productive waqf initiative. Third, the drinking water filter waqf has been implemented for a relatively short period. Consequently, the study cannot yet comprehensively assess its long-term financial sustainability, asset performance, social impact, or contribution to institutional resilience over time.

Future research should extend this study through comparative analyses involving multiple *pesantren* and different types of productive waqf assets. Such comparative studies could identify whether the governance mechanisms and welfare outcomes observed in this case remain consistent across different institutional and geographical contexts. Future studies should also complement qualitative evidence with quantitative measures of economic and social impact, including revenue generation, operational cost savings, beneficiary outcomes, asset productivity, and institutional financial resilience. Longitudinal research would be particularly valuable for assessing whether the economic and social benefits of productive waqf can be sustained over time. Finally, cross-country comparative studies could examine productive waqf governance across different regulatory and institutional environments. Such research would provide a stronger basis for understanding how variations in governance structures, regulatory frameworks, nazhir capacity, and institutional arrangements influence the effectiveness and sustainability of productive waqf management.

Author's Contributions (CRediT Taxonomy)

Jihan Nafisa: Conceptualization, Methodology, Investigation, Data curation, Formal analysis, Writing – original draft, Writing – review & editing.
Asfi Manzilati: Supervision, Methodology, Validation, Writing – review & editing.
Sri Muljaningsih: Methodology, Validation, Formal analysis, Writing – review & editing.

Muhammad Afnan Habibi: Data curation, Formal analysis, Writing – review & editing.

All authors have read and approved the final version of the manuscript.

Acknowledgements
The authors would like to express sincere gratitude to all parties who contributed to the completion of this study. Special appreciation is extended to the management and caretakers of *Pesantren* Putri Al Aziziyyah for their openness, cooperation, and willingness to provide access to data and information throughout the research process. The authors is also grateful to all informants involved in the management and utilization of productive waqf for their valuable insights and cooperation. Appreciation is further extended to the donor for supporting the implementation of the productive waqf initiative examined in this study. Finally, the author acknowledges the academic support and constructive guidance provided by colleagues and institutions that facilitated the completion of this research.

Declarations

Ethical considerations
Participation in the study was voluntary, and informed consent was obtained from all participants prior to the interviews. Participants' identities were anonymized using respondent codes to ensure confidentiality. For participants under the age of 18, consent was obtained from their parents or legal guardians in addition to participant assent.

Use of artificial intelligence (AI)
The authors declare that no generative artificial intelligence (AI) tools were used in the preparation, analysis, or writing of this manuscript.

Conflict of Interest
The authors declare no conflicts of interest.

Funding
This research did not receive any financial support.

References

Alhifni, A., Ahwarumi, B., Rusli, R. K., Ramadhita, Arifin, F., & Demirel, N. (2026). Rethinking contemporary pesantren law and economic independence: A legal economic approach to institutional sustainability. *Metro Islamic Law Review, 5*(1), 753–784. https://doi.org/10.32332/milrev.v5i1.12977

Andayani, W., Sukoharsono, E. G., Mukmin, M. N., & Abdul Aziz, A. H. B. (2025). Assessing the financial sustainability of micro waqf banks: Insights from Indonesia. *Cogent Social Sciences, 11*(1), 2488117. https://doi.org/10.1080/23311886.2025.2488117

Anggadwita, G., Dana, L. P., Ramadani, V., & Ramadan, R. Y. (2021). Empowering Islamic boarding schools by applying the humane entrepreneurship approach: The case of Indonesia. *International Journal of Entrepreneurial Behaviour & Research, 27*(6), 1580–1604. https://doi.org/10.1108/IJEBR-11-2020-0797

Anwar, M. Z., Fathan, Warto, & Hidayati, O. N. (2023). Transformation of economic theology for community empowerment: A case study on pesantren-based Bank Wakaf Mikro. *Journal of Indonesian Islam, 17*(1), 76–99. https://doi.org/10.15642/JIIS.2023.17.1.76-99

Ascarya, A. (2024). An investigation of waqf-based Islamic micro financial institution models to identify the most effective model for Indonesia. *Journal of Islamic Accounting and Business Research, 17*(2), 423–444. https://doi.org/10.1108/JIABR-12-2022-0325

ISSN: 2548-3544 (online), 2549-0850 (print)
DOI: https://doi.org/10.26740/al-uqud.v10n1.p1-17

Badan Wakaf Indonesia. (2023). *Ini lho! Manfaat wakaf produktif.* Badan Wakaf Indonesia.

Don, M. A. M., & Hussin, R. (2024). Waqf model: Al-Azhar University forever. *International Journal of Academic Research in Business and Social Sciences, 14*(2), 1370–1376. https://doi.org/10.6007/IJARBSS/v14-i2/20899

Elmahgop, F., Alsulami, F., Mohammed, M. G., Abdel-Gadir, S., & Elhassan, T. (2025). The socio-economic impacts of waqf investment funds as a model for sustainable financing in Saudi Arabia. *Sustainability, 17*(9), 3805. https://doi.org/10.3390/su17093805

Faifua, D. (2014). *The key informant technique in qualitative research.* SAGE Publications. https://doi.org/10.4135/978144627305014540254

Hadiyanto, R., Irwansyah, S., & Firdaus Nuzula, Z. (2023). The development model of Islamic philosophy to realize the independence of Islamic boarding schools. *KnE Social Sciences, 2023*, 1428–1438. https://doi.org/10.18502/kss.v8i18.14347

Hambari, H., Ayuniyyah, Q., Hakiem, H., & Rahman, R. M. (2026). Analysis of waqf management in Badan Kerjasama Pondok Pesantren Indonesia (BKsPPI): A strategic integration of marketing and governance approaches. *Journal of Islamic Accounting and Business Research*, 1–24. https://doi.org/10.1108/JIABR-04-2025-0208

Huda, M., Supriyadi, A. P., & Ramadhita. (2025). Productive waqf law reform: A solution to support Indonesian local economy amid contemporary global recession. *MILRev: Metro Islamic Law Review, 4*(1), 319–359. https://doi.org/10.32332/milrev.v4i1.10210

Isbah, M. F. (2020). Pesantren in the changing Indonesian context: History and current developments. *Qudus International Journal of Islamic Studies, 8*(1), 65–106. https://doi.org/10.21043/QIJIS.V8I1.5629

Ishak, A. H., Amira Mohamad, S. N., Ab Manan, S. K., Yahaya, M. H., Wan Daud, W. N., & Sharif, D. (2025). The critical success factors of waqf land development for sustainable agriculture. *Social Sciences & Humanities Open, 11*, 101244. https://doi.org/10.1016/j.ssaho.2024.101244

Iskandar, A., Possumah, B. T., Aqbar, K., & Yunta, A. H. D. (2021). Islamic philanthropy and poverty reduction in Indonesia: The role of integrated Islamic social and commercial finance institutions. *Al-Ihkam: Jurnal Hukum dan Pranata Sosial, 16*(2), 274–301. https://doi.org/10.19105/Al-Ihkam.V16I2.5026

Iskandar, D., Arif, M., Soemitra, A., & Nawawi, Z. M. (2023). Productive waqf empowerment strategy model in Indonesia in efforts to prosperate the people. *Proceeding Medan International Conference Economics and Business, 1*, 2313–2321. https://doi.org/10.30596/miceb.v1i0.320

Kemenag RI. (2022). Penggunaan tanah wakaf. Sistem Informasi Wakaf. https://siwak.kemenag.go.id/siwak/index.php

Lamido, A. A., & Haneef, M. A. (2021). Shifting the paradigms in waqf economics: Towards renewed focus on socioeconomic development. *Islamic Economic Studies, 29*(1), 18–32. https://doi.org/10.1108/IES-04-2021-0014

Listiana, L., & Alhabshi, S. M. (2020). Waqf and legacy of altruism in Singapore: Challenges and development. *Jurnal Ekonomi dan Bisnis Islam (Journal of Islamic Economics and Business), 6*(1), 116. https://doi.org/10.20473/jebis.v6i1.19736

Listiana, L., Timur, Y. P., & Syahyuti. (2025). The role of waqf in achieving food security: A netnographic study. *International Journal of Islamic Finance and Sustainable Development, 17*(1), 29–50. https://doi.org/10.55188/ijifsd.v17i1.956

Miles, M. B., & Huberman, A. M. (2014). *Qualitative data analysis: A methods sourcebook.* SAGE Publications.

Muneeza, A., Kunhibava, S., Mohamed, I., & Mustapha, Z. (2024). Empowering the elderly: A cash waqf Takaful model for enhanced provision and protection in Malaysia. *International*

Journal of Islamic and Middle Eastern Finance and Management, 18(1), 68–90. https://doi.org/10.1108/IMEFM-02-2024-0114

Mutmainah, L., Friantoro, D., Rafiqi, Y., & Joni. (2023). Islamic ecosystem to enhance fisheries sector: The role of "Pesantren" and "Kampus Merdeka" program in Tasikmalaya. *IQTISHOD: Pemikiran dan Hukum Ekonomi Syariah, 2*(1), 19–36.

Mutmainah, L., Nurwahidin, N., & Huda, N. (2025). Optimizing productive waqf for halal tourism development. *Journal of Islamic Accounting and Business Research*. https://doi.org/10.1108/JIABR-02-2023-0062

Muthoifin, M., & Firdaus, I. (2020). Management of productive waqf for empowerment of the ummah. *Profetika: Jurnal Studi Islam, 21*(2), 253–259. https://doi.org/10.23917/profetika.v21i2.13085

Nasar, A. J. M., Saleh, A. O. H., Alhajri, F. M. F. S., & Taoufiq, E. A. (2020). Methods of financing waqf development in Singapore. *International Journal of Business Ethics and Governance, 3*(1), 25–42. https://doi.org/10.51325/ijbeg.v3i1.28

Owais, M., & Manaf, Z. I. A. (2023). Comparative analysis of waqf institutions governance in India and Singapore. *El Barka: Journal of Islamic Economics and Business, 6*(2), 257–282. https://doi.org/10.21154/elbarka.v6i2.5321

Pirmani, U., Kurniawan, E., & Najmi. (2024). From the debate on the legality of waqf al-Ahlī to its implementation in Southeast Asia: Indonesia, Malaysia, and Singapore. *International Journal of Law and Society, 3*(2), 59–76. https://doi.org/10.59683/ijls.v3i2.81

Ratnasari, R. T., Timur, Y. P., Battour, M., & Jamilu, U. (2023). An effort to increase waqf intention: The role of celebrity endorsers in social campaigns. *Al-Uqud: Journal of Islamic Economics, 7*(2), 154–171. https://doi.org/10.26740/aluqud.v7n2.p154-171

Sabila, A. M., Arifin, S., & Humaidi, M. N. (2024). Islamic boarding school in the trajectory of Indonesian history: Origins, characteristics, and policy dynamics. *Al-Hayat: Journal of Islamic Education, 8*(1), 45–58. https://doi.org/10.35723/ajie.v8i1.440

Sholihuddin, M. (2025). The decline of pesantren: Examining leadership, financial constraints, and social transformation. *Ta'dibuna: Jurnal Pendidikan Islam, 14*(3), 166–186. https://doi.org/10.32832/tadibuna.v14i3.19292

Timur, Y. P., Ramdani, Ramis, I., Rohmaningtyas, N., Munir, M. B. B., & Mohd Kassim, S. F. B. (2025). How far cash waqf research by Indonesian researchers supports the SDGs?: A bibliometric analysis and systematic literature reviews. *Multidisciplinary Reviews, 8*, e2025387. https://doi.org/10.31893/multirev.2025387

Triyawan, A., Ahmad, N. B., Haris, A. B., & Hadi, N. B. A. (2023). The implementation of productive waqf in pesantren: A study of unique management practices. *Li Falah: Jurnal Studi Ekonomi dan Bisnis Islam, 8*(1), 86–94. https://doi.org/10.31332/lifalah.v8i1.4315

Yakubu, A. B., & Isbahi, M. B. (2022). A conceptual analysis: The inclusion of elder-care funding in contemporary waqf revival in Nigeria. *Indonesian Interdisciplinary Journal of Sharia Economics (IIJSE), 5*(2), 621–636. https://doi.org/10.31538/iijse.v5i2.2238