

How can Tamanu Green Waqf be Developed in Indonesia?

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Abstract: Environmental problems in Indonesia include the energy crisis and threat of critical land that impacts biodiversity, climate, pollution, and deforestation. Indonesia needs sustainable solutions such as the implementation of a green waqf model. The green waqf program is implemented by producing waqf land through plants such as Tamanu (*Calophyllum Inophyllum*). The green waqf program in Indonesia was initiated in 2020, with Tamanu as the main plant. Waqf institutions that have now begun to synergize with Wacid to actively plant Tamanu include the Sinergi Foundation and Paramadina. This study analyzes the development strategy of Tamanu-based green waqf using the ANP-SWOT method. The results show that the opportunity aspect has the highest priority compared to the other elements. Government policy on the provision of biofuel raw materials to support renewable energy can be a very influential opportunity in formulating a strategy for the development of Tamanu green waqf in Indonesia. The formulation of strategies can be a policy recommendation for waqf institutions that implement the Tamanu green waqf program.

Keywords: green waqf; strategy; Tamanu; waqf institution

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INTRODUCTION

Environmental problems, such as biodiversity, climate, pollution, and deforestation, are serious and complex issues that involve components of life. The energy crisis is an environmental problem that requires special attention. Society's dependence on the use of fossil fuels has triggered an energy crisis, which is accompanied by an increase in greenhouse gas emissions. The increase in greenhouse gas emissions is caused by the use of fossil fuels, which results in climate instability, an increase in the Earth's temperature, and an increase in the sea surface temperature (Pertamina, 2020). Based on climate parameter data released by the Meteorology, Climatology, and Geophysics Agency (BMKG), the average temperature anomaly in September 2023 has been recorded as the fourth-highest anomaly since 1981 (BWI, 2023). Therefore, the fundamental transformation from fossil energy use to renewable energy sources will have a significant impact on various aspects of life, including environmental, social, and economic conditions (Yang et al., 2020).

In addition to the energy crisis, the growing distribution of critical land requires further attention. Critical land in Indonesia in 2018 reached 14 million hectares (BPS, 2020) and is projected to become 19.8 million hectares by 2024 (Wibowo, 2023). Critical land is triggered by land degradation caused by land use and does not focus on conservation (Rosyada et al., 2015). Critical land conditions can cause ecosystem imbalances and reduce soil productivity, thereby improving the quality of critical land through land conservation. Based on these environmental problems, Indonesia adheres to the principle of sustainable development goals requiring solutions for environmental preservation, one of which is through the implementation of Islamic financial instruments, namely waqf.

Waqf is one of the instruments of Islamic finance designed to encourage sustainable socioeconomic by offering enduring benefits to society. Waqf can be defined as the granting of the right of use of a particular property to a beneficiary, motivated by the intention to achieve a good cause or promote a project that has general or comprehensive benefits (Hashim et al., 2014). Waqf is referred to the withholding of ownership rights over an object by the waqf giver and the donation of the benefits of the object for good purposes. There are various types of waqf, one of which is green waqf.

Green Waqf is a concept that combines environmental conservation efforts with Islamic philanthropic values. This concept utilizes waqf assets to fund and support various environmental projects, such as reforestation, renewable energy development, and water conservation, in order to support ecosystem sustainability and community welfare (UNDP, 2022). A green waqf is used for environmental sustainability, climate, energy, saving critical land, and empowering communities through natural resource management. A green waqf can create major socioeconomic benefits and improve the quality of human life (Beik, 2022). This model also supports sustainable development (Obaidullah, 2018), particularly points 7 (Clean Energy) and 13 (Climate Change). Therefore, the concept of green waqf is important for studying and implementing development development goals.

Green waqf is implemented through the management of plants grown on waqf lands. One of the plants that became the object of the green waqf was Tamanu. Tamanu, also known as Nyamplung (*Calophyllum Inophyllum*), is a multi-purpose timber plant in which almost all parts of the tree can be utilized to produce high-economic value products (Sari et al., 2015). In addition to being beneficial to environmental conservation, Tamanu management can also provide benefits in the socioeconomic field, namely through community empowerment. Considering the many benefits found in Tamanu, it is a strong consideration that this plant can be utilized on waqf lands. Planting Tamanu on waqf land aims to make the land more productive. Tamanu can grow on land that lacks nutrients. According to a study by Bustomi et al. (2008), Tamanu is relatively easy to cultivate and does not require special care, thus making it suitable for planting.

Planting Tamanu on waqf land in Indonesia has the potential to provide great benefits if implemented correctly. Currently, many waqf lands are managed for madrassas (Islamic schools), mushollas (prayer rooms), and tombs (graves), resulting in suboptimal implementation (Kemenag, 2022). According to Junaidi & Heryati (2018), waqf land in Indonesia has not been productively managed. Ningsih

et al. (2022) mentioned that the potential of waqf in Indonesia has not been optimized when viewed from the 2021 National Waqf Literacy Index data. This causes a lack of optimization of waqf, such as limited information for nazirs (waqf management). Sulaiman & Zakary (2015) in their research stated that ineffective waqf management and the absence of information related to waqf are criticisms of waqf institutions optimizing the potential of existing waqf. Tamanu's green waqf model can be a solution for land optimization and environmental quality improvement through the work of waqf institutions that focus on environmental issues, such as the Sinergi Foundation and Paramadina. Since 2022, these institutions have been working with Wacids to manage Tamanu as a green waqf.

The Tamanu Green Waqf Program in Indonesia, initially a discourse of the Indonesian Waqf Board (BWI), has been successfully implemented in waqf institutions. However, waqf institutions must have special allocations of money for Tamanu Green Waqf. Cash waqf payments to waqf institutions can be done by offline or online. As the potential use of digital technology becomes increasingly popular, it is possible to optimize the collection of waqf funds. Based on data released by Yonatan (2023), the number of social media users in Indonesia reached 139 million. In addition, the use of fintech for digital payments is the highest, with a score of 93% (DataIndonesia.Id, 2023). These data reinforce the opportunity for the Tamanu green waqf to grow.

Waqf institutions that have implemented Tamanu Green Waqf still do not have in-depth knowledge and understanding of the program because they are relatively new to its implementation. Moreover, in the future, to develop it as a new renewable energy and other derivative products, there is a need for large financial support; therefore, more massive collaboration must be improved to support this program. Therefore, from the constraints and problems faced, research needs to be conducted to formulate solutions to the problems of Tamanu development and formulate appropriate policy strategies.

RESEARCH METHODS

The research was conducted online for four months from March to June 2024. The data collection process took the form of in-depth interviews and seven respondents filled out questionnaires. The research data are primary data obtained from in-depth interviews and questionnaires distributed to respondents, namely regulatory experts, academics, and practitioners who understand and are active in the development of Tamanu as a green waqf implementation.

Determine samples for research respondents using non-probability sampling techniques with purposive sampling methods, namely, selecting non-random (deliberate) samples. According to Sugiyono (2016), the purposive sampling technique is a data-source sampling technique with certain considerations. This is because not all samples meet the criteria that are in accordance with the research topic to be studied, so there are criteria that must be met by respondents so that the data obtained are valid. The criteria for respondents studied were respondents who had knowledge about Tamanu, development, and green waqf. The respondents in this study were regulators, practitioners, and academics. In the ANP method, the number of research respondents does not matter in determining the

validity of the data; as Ascarya (2005) stated, validity is not measured based on the number of samples or respondents. It is crucial that the respondents are knowledgeable and capable in their fields. The respondents in this study consisted of seven representatives from the Indonesian Waqf Board, representatives from Wacids, two representatives from waqf institutions, namely the Sinergi Foundation, representatives from Ahli Tamanu (BRIN), and two representatives of academics. The analysis method used was the Analytic Network Process (ANP) with the Strength, Weakness, Opportunity, Threats (SWOT) approach. The data obtained were analyzed using the Super Decisions software and Microsoft Excel 2021.

RESULTS AND DISCUSSION

Tamanu's Green Waqf Program in Indonesia

Green Waqf was first initiated by Muhaimin Iqbal in 2021 until finally this program was formalized by BWI and became a movement called the Green Waqf Movement (Wacids, 2021). The Green Waqf program is under the auspices of Wacids and supervised by the coordinator of Wacids, Lisa Listiana. The first plant that became a pilot project in the direction of BWI was Tamanu. The discourse on the development of Tamanu by BWI originated with the aim of contributing to the environment, which is in accordance with the Sustainable Development Goals. The underlying point is that Tamanu can be a substitute for fossil fuels, thus helping overcome the energy crisis.

Based on in-depth interview, in 2022, Wacids expanded its cooperation with waqf institutions to plant Tamanu on waqf land, namely, the Sinergi Foundation and Paramadina. A total of 100 Tamanu seedlings were planted. The costs required at the beginning of the development were funded by Wacids, so that the waqf institution had not incurred its own costs. At that time, the waqf institution received socialization from Wacids about Tamanu Green Waqf, but in a basic manner. Based on in-depth interviews, long-term implementation and other procedures have not been provided by Wacids; therefore, waqf nazirs still have minimal knowledge and understanding. In addition, funds for Tamanu were not specifically allocated, as Wacids initially provided funds. Despite these constraints and limitations, waqf nazirs remain committed to continuing the development of the Tamanu Green Waqf. Therefore, careful preparations need to be followed up. Based on the interviews, cooperation with various parties and expert assistance are the main needs of waqf institutions.

SWOT Analysis and ANP Results

There are two aspects of SWOT: internal aspects in the form of strengths and weaknesses and external aspects in the form of opportunities and threats. Internal aspects are things that are within the scope of the Tamanu Green Waqf Program that exist in waqf institutions and are within their control, whereas external aspects are aspects that are beyond their control in the implementation of Tamanu Green Waqf. SWOT analysis was then used as the basis for formulating appropriate development strategies regarding Tamanu Green Waqf in waqf institutions that have been coordinated with the parties involved and experts in their fields.

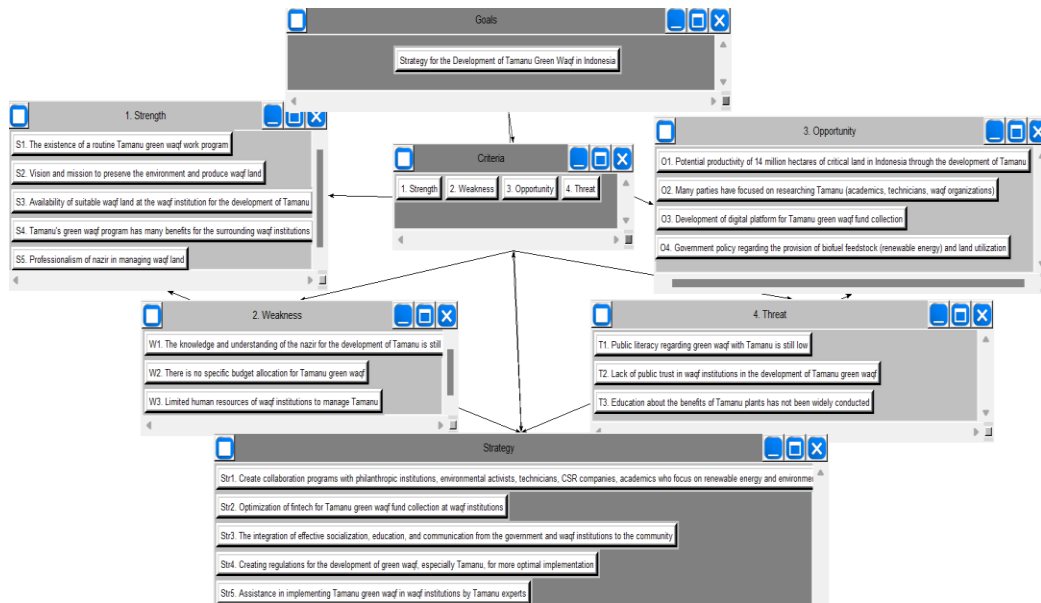


Figure 1. ANP-SWOT Network

Figure 1 shows the ANP-SWOT network structure obtained from SuperDecisions. The network consists of objective criteria and alternative strategies. The criteria consisted of four elements: Strengths-Weaknesses-Opportunities-Threats. Each element was validated by experts who were research respondents and previous research references. The variables contained in each element were obtained from the following sources.

Table 1. Research Variables

	Variable	Source
Strength (S)	The existence of a routine Tamanu green waqf work program	Interview respondents
	Vision and mission to preserve the environment and produce waqf land	(Pramitha, 2016)
	Availability of suitable waqf land at the waqf institution for the development of Tamanu	(Fikri & Andrian, 2023)
	Tamanu's green waqf program has many benefits for the surrounding waqf institutions	(Rejeki, 2015)
	Professionalism of nazir in managing waqf land	(Nisa et al., 2022)
Weakness (W)	The knowledge and understanding of the nazir for the development of Tamanu is still low	(Harahap & Darwanto, 2021)
	There is no specific budget allocation for Tamanu green waqf	Interview respondents

	Limited human resources of waqf institutions to manage Tamanu	(Dikuraisyin, 2020)
Opportunity (O)	Potential productivity of 14 million hectares of critical land in Indonesia through the development of Tamanu	(KLHK, 2018)
	Many parties have focused on researching Tamanu (academics, technicians, waqf organizations)	Interview respondents
	Development of a digital platform for the Tamanu Green Waqf fund collection	(BWI, 2021)
	Government policy regarding the provision of biofuel feedstock (renewable energy) and land utilization	(Perpres, 2006)
Threat (T)	Public literacy regarding green waqf with Tamanu is still low	(Mardani, 2023)
	Lack of public trust in waqf institutions in the development of Tamanu Green Waqf	(Aryana, 2022)
	Education about the benefits of Tamanu plants has not been widely conducted.	Interview respondents
Strategy (Str)	Create collaboration programs with philanthropic institutions, environmental activists, technicians, CSR companies, and academics who focus on renewable energy and environmental issues.	(Rejeki & Negoro, 2022)
	Optimization of fintech for Tamanu green waqf fund collection at waqf institutions	(Diniyah, 2021)
	The integration of effective socialization, education, and communication from the government and waqf institutions to the community	(Widiastuti, 2021)
	Creating regulations for the development of green waqf, especially Tamanu, for more optimal implementation	([BWI], 2023)
	Assistance in implementing Tamanu green waqf in waqf institutions by Tamanu experts	Interview respondents

Stages of data processing using ANP-SWOT analysis in the form of models, model quantification, and analysis synthesis. After the model was formed, the priority value of each aspect and element was quantified. The priority value was

obtained from the Geometric Mean value obtained from the results of the pairwise comparison questionnaire at the output in the SuperDecisions.

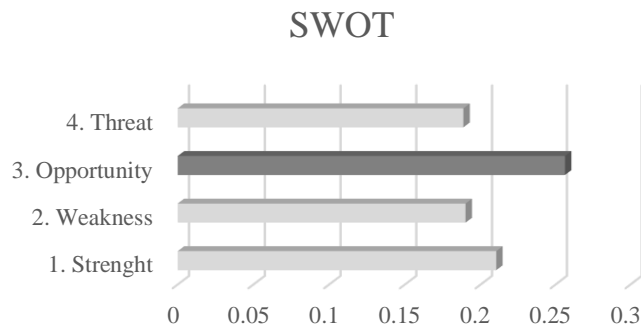


Figure 2. Data processing results of SWOT criteria

From Figure 2, it can be seen that the opportunity aspect has the highest priority value, with a priority score of 0.256234. The value of rater agreement or respondent agreement resulted in a W-value of 0.0448. The interpretation of this value shows that 4% of the respondents agree that opportunities have the highest priority level and influence the development of the Tamanu green waqf program in Indonesia. Although a small W value does not mean that the model used is wrong, it shows that there are different perspectives among respondents so that there are variations in answers.

Internal Aspects

Strength

The existence of a routine Tamanu green waqf work program (S1)

The existence of a waqf program can increase its contribution to people's welfare. According to Amelia et al. (2023), the ZISWAF work programs can encourage economic growth at the micro level. The zakat system implemented by Umar bin Abdul Aziz has proven effective in overcoming economic problems, such as poverty in the community (Kusmastuti & Syakuro, 2023). The Tamanu Green Waqf program was first established in 2021, initiated by Wacids and in collaboration with the Sinergi Foundation and Paramadina for the implementation of activities in the form of planting Tamanu from waqf funds. Based on interviews with respondents, the commitment of waqf institutions is important for continuing the Tamanu Green Waqf work program because it is under the vision and mission of the institution.

Vision and mission to preserve the environment and productive waqf land (S2)

Every waqf institution has a vision and mission to run future programs. Vision and mission are useful for showing the policy direction in supporting the achievement of expected goals (Pramitha, 2016). Similar to waqf institutions such as the Sinergi Foundation and Paramadina, the vision is "Reference for Waqf Management and Social Empowerment Innovation" with one of the missions to realize the best models of the innovation portfolio of Waqf and ZIS-based civilization-oriented social empowerment programs.

Availability of waqf land suitable for Tamanu development (S3)

Based on interviews with informants, the institution already owns waqf land that is usually used for cemeteries and has been expanded as productive land for Tamanu. The land assets owned by waqf institutions make it easier to develop Tamanu as a green waqf object to support the sustainability of green waqf programs. Fikri & Andrean (2023) stated that waqf land is an important asset that supports the implementation of waqf programs.

Tamanu's green waqf program has many benefits for the surrounding waqf institutions (S4)

Many studies have mentioned that Tamanu has benefits for both the environment and society. Tamanu in Indonesia can be utilized as a source of fuel oil (Rejeki, 2015). Trees are also useful for the conservation of coastal areas (Susila, 2018). Based on the results of interviews with informants from BRIN researchers, Tamanu utilization provides benefits for the environment by supporting sustainable development and has economic and social benefits by increasing community income.

Professionalism of nazir in managing Tamanu green waqf land (S5)

The professionalism of a nazir is a very important and major factor in the management of waqf assets (Nisa et al., 2022). A nazir who has a sense of responsibility for managing waqf assets will increase public trust in waqf institutions. Professionalism and the quality of a nazir in managing waqf assets are the main benchmarks in waqf management (Direktorat Pengembangan Zakat dan Wakaf, 2004).

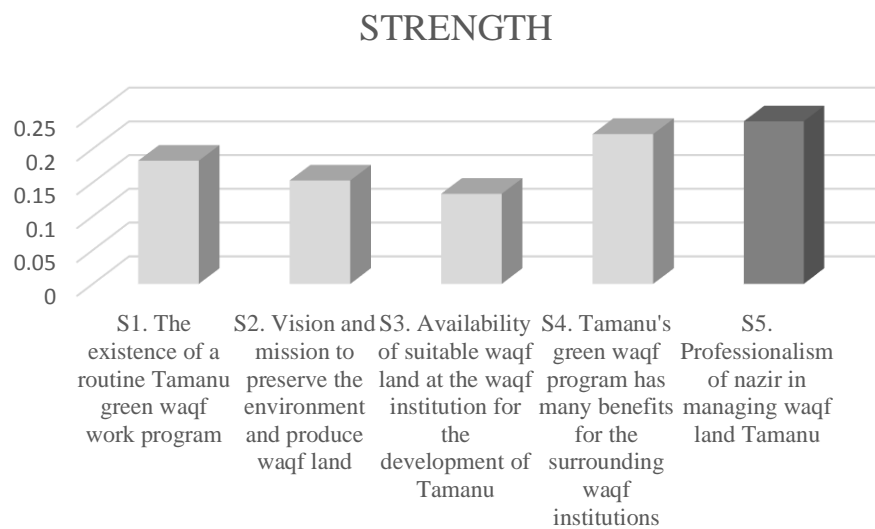


Figure 3. Data processing results of strength aspects

Based on the results of data processing, Figure 3 shows that the priority of the highest strength aspect is the professionalism of the nazir in managing Tamanu green waqf land (S5), with a score of 0.240679. The result of the calculation of the rate agreement (W) value or the respondent's agreement value was 0.24. This shows that 24% of respondents agreed that the professionalism of the nazir in managing

Tamanu green waqf land affects the development of Tamanu green waqf in Indonesia. Although a small W value does not mean that the model used is wrong, it shows that there are different perspectives among respondents so that there are variations in answers.

Weakness

The knowledge and understanding of nazir for the development of Tamanu is still low (W1)

Knowledge and understanding influence the success of a programme. According to Harahap & Darwanto (2021), the limited knowledge and skills of nazirs in managing waqf can reduce its credibility and creativity of waqf *management*. Based on interviews conducted with informants, Tamanu green waqf nazirs do not have in-depth knowledge or understanding of Tamanu management. Their knowledge is limited to the planting and basic maintenance of Tamanu, and, in the long run, they do not know the production of Tamanu products. Ascarya et al. (2022) mentioned that coaching and mentoring of waqf nazirs need to be carried out continuously to create professional nazir resources, especially being able to understand the whole of the Tamanu plant as a green waqf object.

No specific budget allocation for Tamanu green waqf (W2)

The implementation of Tamanu's green waqf program will not be successful if there is no capital to support its realization. According to Haque & Puspitasari (2022), budget allocations from zakats and alms can be used to improve welfare. Similar to waqf, clear budget allocation can benefit people. Based on interviews conducted with informants from the Sinergi Foundation, the institution currently does not have a special budget allocation for the Tamanu program because, in the previous collaboration, the funds were sourced from sponsors so that the Sinergi Foundation only facilitated waqf land. However, as Tamanu plants develop, the expenditure on funds will certainly increase, and waqf institutions need to allocate funds.

Limited human resources of waqf institutions to manage Tamanu (W3)

Human resources are an important asset for the success of the program, including the Tamanu Green Waqf program. Setiawan et al., (2021) conducted research at Dompot Dhuafa in Banten on productive waqf and one of the obstacles in the management and development of productive waqf is the limited human resources of only 10 people. Based on interviews conducted with informants, limited human resources are also a problem. Because Tamanu is managed at the Firdaus Memorial Park, there are only three human resources, so the focus of work for each responsibility becomes ineffective. Therefore, waqf institutions need to deploy sufficient human resources to maximize the development of Tamanu green waqf.

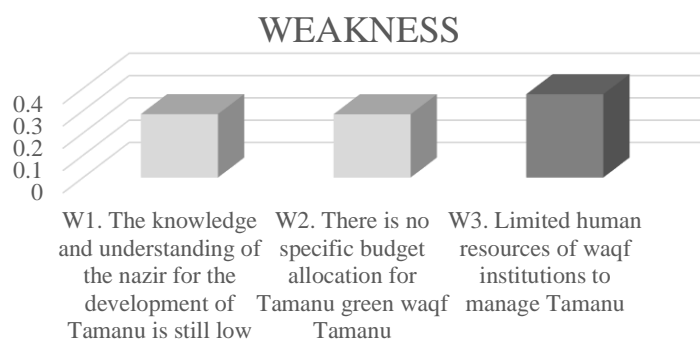


Figure 4. Data processing results of weakness aspects

Based on the results of data processing, Figure 4 shows that the priority of highest weakness aspect is the limited human resources of waqf institutions to manage Tamanu (W3), with a score of 0.373406. This shows that 8% of the respondents agree that the limited human resources of waqf institutions to manage Tamanu affect the development of Tamanu green waqf in Indonesia. Although a small W value does not mean that the model used is wrong, it shows that there are different perspectives among respondents so there are variations in answers.

External Aspects

Opportunities

The potential productivity of 14 million hectares of critical land in Indonesia through the development of Tamanu (O1)

According to data from KLHK (2018), critical land in Indonesia has reached 14 million hectares. This critical land is in the form of land degradation, which causes soil production to decrease and is difficult to plant. Critical land needs to be rehabilitated to maximize the benefits of sustainable development. (Pamungkas & Karmadi, 2012). Based on in-depth interviews conducted with informants from BRIN researchers, Tamanu can be a solution for critical land in Indonesia. The potential of Tamanu can spur the productivity of critical land in Indonesia to become more optimal and sustainable, providing benefits for both the environment and humans.

Many parties have focused on Tamanu research (academics, technicians, waqf organizations)

Many studies on Tamanu have been conducted by academics (lecturers) and technicians (experts). These studies provide information that can be used as a reference for further research, such as research conducted by Pribowo et al. (2021), which showed that Tamanu can treat rashes in babies and joint pain in Fiji. Tamanu oil can moisturize the skin owing to its high fatty acid content. (Wirata & Endriyanto, 2024).

Development of a digital platform for Tamanu green waqf fundraising (O3)

In this era of advanced technology, the digitization of technology has been increasingly echoed, especially for payment transactions. The same applies to waqf fund payments. According to BWI (2021), digital platforms have been used by waqf institutions to collect funds. This development supports the optimization of waqf funds. Digital payment systems offer convenience in transactions. (Tarantang et al., 2019). Based on the results of the interviews with informants, the existence of a digital platform can increase the budget realization of Tamanu's green waqf program.

Government policy on biofuel feedstock provision (renewable energy) and land utilization (O4)

According to the Presidential Regulation of the Republic of Indonesia Number 5 of 2006 (Perpres, 2006), concerning the National Energy Policy, alternative energy is determined, one of which is in the form of biofuels, with the

aim and objective of ensuring energy supply and supporting sustainable development. Hernowo et al. (2017) stated that the development of biofuels is strongly supported by the government in reducing the use of fossil fuels. Based on interviews with informants, this government policy regarding alternative energy is a strong reason for Tamanu to be cultivated, considering its many benefits, one of which is as a biofuel.

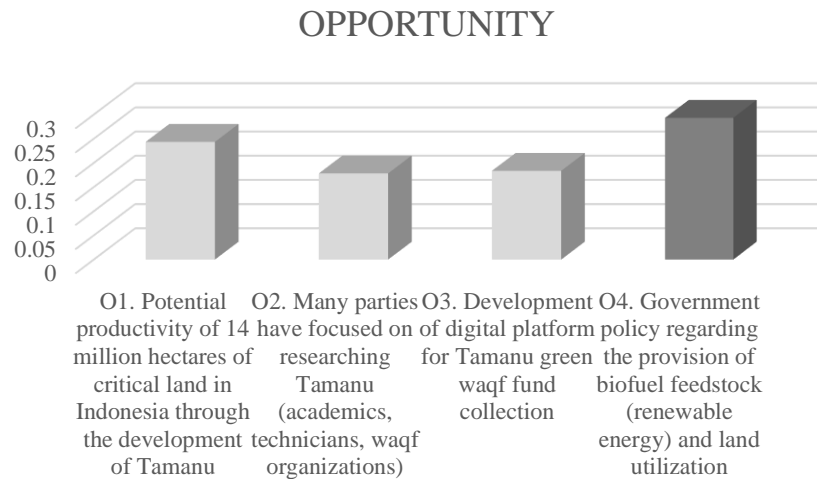


Figure 5. Data processing results of opportunity aspects

Based on the results of data processing, Figure 5 shows that the priority of the highest opportunity aspect is government policy regarding the provision of biofuel raw materials (renewable energy) and land use (O4), with a score of 0.293264. The result of the calculation of the rate agreement value (W) or the respondent's agreement value was 0.15. This shows that 15% of respondents agreed that government policies regarding the provision of biofuel raw materials (renewable energy) and land use affect the development of Tamanu green waqf in Indonesia.

Threats

Public literacy regarding the development of Tamanu for green waqf is still low (T1)

According to Mardani (2023), one of the obstacles to the development of waqf in Indonesia is still not optimal because people's literacy of waqf is still low. Based on data from the 2020 Waqf Literacy Index Survey Results Report, the overall National Waqf Literacy Index (ILW) scored 50.48, which was in the low category.

Table 2. Dimension scores of the 2020 waqf index

Number	Variable/Dimension	Score	Category
1	Basic Understanding of Waqf	57.67	Low
2	Advanced Understanding of Waqf	37.97	Low
3	Zakat Literacy Index	50.48	Low

Source: Waqf Literacy Index Survey Results Report (2020) (BWI, 2020)

The data above show that the national waqf literacy index is still low, as evidenced by the basic understanding score of 57.67 and the advanced understanding score of 37.97. Based on the results of interviews with informants, the community around the institution had a low level of literacy in Tamanu green waqf, as evidenced by their ignorance of Tamanu and its benefits. Therefore, socialization must be implemented to encourage and direct people to understand Tamanu waqf.

Lack of public trust in waqf institutions in the development of Tamanu green waqf (T2)

Trust indicates a person's desire to rely on another party, where the person has confidence in that party. (Sugara & Dewantara, 2017). Therefore, public trust in waqf institutions is essential to support the development of programs within them. Trust is an important indicator of customer satisfaction with Islamic financial institutions, especially waqf institutions. (Aryana, 2022). A lack of public trust can cause obstacles in the implementation of waqf, such as waqf funds that are not collected optimally.

There has not been much education on the benefits of Tamanu plants (T3)

Tamanu, which is currently a waqf object, is not necessarily known to the community. The lack of education about the importance of waqf by human resources can make the management of waqf in the community less than optimal. (Maysitah, 2023). The government and waqf institutions need to coordinate socialization and education in the community so that Tamanu can be developed more optimally.

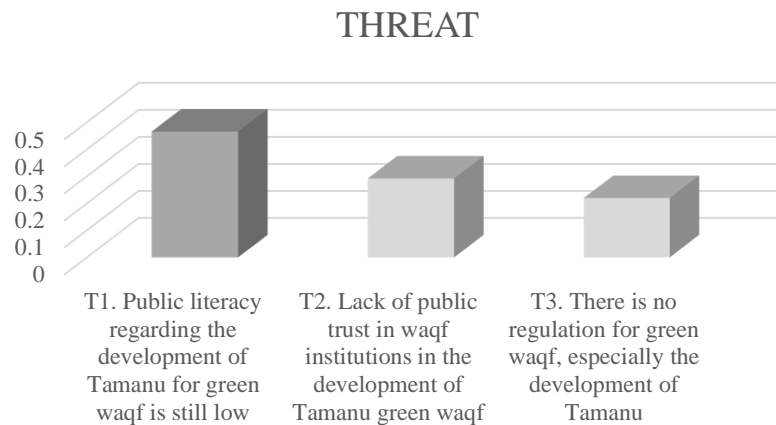


Figure 6. Data processing results of threat aspects

Based on the results of data processing, Figure 6 shows that the priority of the highest threat aspect in community literacy regarding the development of Tamanu for green waqf is still low (T1), with a score of 0.465696. The result of the calculation of the rate agreement (W) value or the respondent's agreement value was 0.63. This shows that 63% of the respondents agreed that community literacy regarding the development of Tamanu for green waqf is still low, which affects the development of Tamanu green waqf in Indonesia.

Development Strategy of Tamanu Green Waqf in Indonesia

The strategy formulation is carried out after the SWOT criteria aspects of Tamanu green waqf development in Indonesian waqf institutions are analyzed. The formulated strategies are expected to maximize strengths and opportunities and minimize or suppress weaknesses and threats. The strategies were obtained from a combination of matrices in SWOT.

Table 3. Research ANP-SWOT matrix

	Strength (S)	Weakness (W)
Internal	<p>S1. The existence of a routine Tamanu green waqf work program</p> <p>S2. Vision and mission to preserve the environment and produce waqf land</p> <p>S3. Availability of suitable waqf land at the waqf institution for the development of Tamanu</p> <p>S4. Tamanu's green waqf program has many benefits for the surrounding waqf institutions</p> <p>S5. The professionalism of Nazir in managing Waqf's land</p>	<p>W1. The knowledge and understanding of the Nazir for the development of Tamanu is still low</p> <p>W2. There is no specific budget allocation for Tamanu Green Waqf</p> <p>W3. Limited human resources of waqf institutions to manage Tamanu</p>
External	SO	WO
Opportunity (O)	<p>O1. The potential productivity of 14 million hectares of critical land in Indonesia through the development of Tamanu</p> <p>O2. Many parties have focused on researching Tamanu (academics, technicians, waqf organizations)</p> <p>O3. Development of a digital platform for the Tamanu Green Waqf fund collection</p> <p>O4. Government policy regarding the provision of biofuel feedstock (renewable energy) and land utilization</p>	<p>Create collaboration programs with philanthropic institutions, environmental activists, technicians, CSR companies, and academics who focus on renewable energy and environmental issues.</p> <p>Optimization of fintech for Tamanu green waqf fund collection at waqf institutions</p>
Threats (T)	ST	WT
<p>T1. Public literacy regarding green waqf with Tamanu is still low</p> <p>T2. Lack of public trust in waqf institutions in the development of Tamanu Green Waqf</p>	<p>The integration of effective socialization, education, and communication from the government and waqf institutions to the community</p>	<p>Assistance in implementing Tamanu green waqf in waqf institutions by Tamanu experts</p>

T3. Education about the benefits of Tamanu plants has not been widely conducted	Creating regulations for the development of green waqf, especially Tamanu, for more optimal implementation
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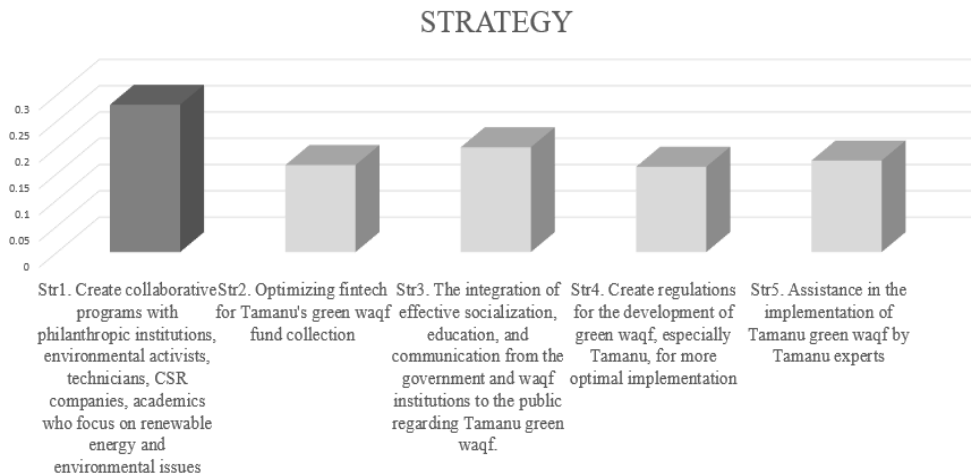


Figure 7. Data processing results of strategy aspects

Based on the results of data processing in Figure 7, the highest priority strategy is Str1, creating collaboration programs with philanthropic institutions, environmental activists, technicians, CSR companies, and academics who focus on renewable energy and environmental issues, with a score of 0.280644. The result of the calculation of the rate agreement value (W) or the value of the respondent agreement was 0.41%. This shows that 41% of respondents agree that creating a collaboration program with institutions that focus on managing Tamanu affects the development of Tamanu green waqf in Indonesia.

Creating collaborative programs with institutions that focus on renewable energy and environmental issues

Tamanu's green waqf program will not run smoothly without synergy or cooperation from other parties, especially those with more experience and understanding of the program. Collaboration between the government, financial institutions, and the community is important for utilizing the potential benefits of ZISWAF. (Haliza et al., 2024). According to Rejeki & Negoro (2022), collaboration needs to be conducted to complement each other and achieve common goals. According to Fatmawati et al. (2023), collaboration between institutions in a program can have a positive impact on society. According to the results of the interviews with informants from Wacids, the ongoing Tamanu Green Waqf program will be easier to manage if there are collaborative programs from various entities that focus on their fields. CSR companies committed to operating according to policies that have a positive impact on the environment can be invited to collaborate to increase revenue (waqf funds) and Tamanu management activities. In addition, academics and technicians who are experts in Tamanu's green waqf can

collaborate in programs that provide information and understanding for waqf institutions and the surrounding community.

Optimizing fintech for Tamanu's green waqf fund collection

Nowadays, the use of digital technology proves that people already understand and are aware of the presence and benefits of technology. According to the 2021 edition of the State of Finance App Marketing Report released by AppsFlyer (Sari, 2021), Indonesia is the third country with the highest number of financial apps. This proves that people are fintech literate. The presence of fintech makes it easier for people to make transactions, including ZISWAF payments. Through fintech, waqf institutions can easily and practically collect waqf funds. Diniyah (2021) Mentioned that fintech offers waqf fundraising through crowdfunding. The utilization of social media for fintech crowdfunding can be an alternative to increasing the interest of muzaki in paying zakat. (Widyar et al., 2024). Similarly, green waqf can utilize social media to attract public interest.

The integration of effective socialization, education, and communication from the government and waqf institutions to the community

Problems surrounding low public literacy about Tamanu and green waqf, as well as low public trust in the program, must be overcome by the integration of effective socialization, education, and communication activities between the government waqf institutions and the community. (Widiastuti, 2021). Through these activities, the community will be educated from the basics to the depths, so that public understanding and awareness of Tamanu green waqf will increase. The attitude toward communicating with the community is also considered, considering the diversity of the community and the different backgrounds of each person. Education or socialization of ZISWAF programs through applications can influence people to find and channel their funds to ZISWAF institutions. (Zainuri et al., 2022).

Regulating the development of green waqf, especially Tamanu, for more optimal implementation

According to the BWI (2023), regulations governing green waqf must be made to strengthen the legality of green waqf development, such as Tamanu in Indonesia. The absence of regulations can make it difficult for the public to recognize the existence of a green waqf. The regulation of waqf in Indonesia began with the issuance of the Regulation of the Ministry of Religious Affairs on December 22, 1953, which regulated the procedure for granting waqf land, which was later updated through Circular Letter Department of Religious Affairs Number 5/D/1956. The importance of waqf legislation can be analyzed from several articles in Law No. 41 of 2004, such as Articles 4 and 5, that waqf aims to utilize waqf property by its function and waqf functions to realize the potential and economic benefits of waqf property for the benefit of worship and to advance public welfare. The existence of regulations regarding waqf can provide legality for waqf assets

and obtain permission from the Ministry of Religious Affairs. (Kasdi, 2016); therefore, for green waqf, regulations will further strengthen the implementation and provide program trust to the community.

Assistance in the implementation of Tamanu green waqf by Tamanu experts

The obstacles to the implementation of waqf institutions in approximately three years of running the Tamanu waqf program are caused by managers' low understanding of Tamanu and limited experience. The solutions that can be used to overcome these obstacles include assistance from experts. Imari et al. (2024) Research on zakat instruments stated that assistance in managing zakat funds by Islamic law provides a deeper understanding of the proper ways of managing zakat funds for mosque administrators. Assistance by program facilitators on ZISWAF also acts as a means of sharing and monitoring evaluations. (Hidayah, 2017). Based on an interview with expert informant Tamanu, the mentoring function is intended to optimize management, improve the quality of management, and provide education and training.

CONCLUSION

The opportunity aspect should be considered the most when supporting the development of Tamanu green waqf in Indonesia. The highest priority in the strength aspect is the professionalism of the Nazir in managing Tamanu green waqf land. The highest priority in the weakness aspect is the knowledge and understanding of the nazir for development. The highest priority in the opportunity aspect is government policy regarding the provision of biofuel raw materials (renewable energy) and land utilization. The highest priority in the threat aspect is that community literacy regarding the development of Tamanu for green waqf is still low. Strategies that need to be implemented based on the order of highest to lowest priority, namely Creating collaboration programs with philanthropic institutions, environmental activists, technicians, CSR companies, academics who focus on renewable energy and environmental issues, Integrated socialization, education, and effective communication from the government and waqf institutions to the public regarding Tamanu green waqf, Assistance in implementing Tamanu green waqf by Tamanu experts, Optimizing fintech for Tamanu green waqf fund collection; and Creating regulations for the development of green waqf, especially Tamanu for more optimal implementation. Suggestions that can be provided, namely the government review regulations regarding green waqf as a legal umbrella for the implementation of waqf so that institutions that have programs have guidelines, the government collaborates with parties who focus on environmental issues and parties who have experience and skills about Tamanu for better program sustainability in the future, the need for socialization and education activities from the government to the community considering the level of waqf literacy is still low, and waqf institutions that will include Tamanu green waqf in routine programs must have careful preparation such as making feasibility studies. Suggestions for future research include the inclusion of engine expert informants in Tamanu processing for long-term program sustainability and broader research on other types of green waqf.

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