



WAQF EMPOWERMENT-BASED GREEN CAMPUS MODEL: TOWARDS ALTERNATIVE SUSTAINABLE FINANCING FOR SUSTAINABILITY INITIATIVES IN HEI

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Abstract

Environmental sustainability has become an important agenda that requires the involvement of various stakeholders, including higher education institutions. However, funding remains a significant challenge in establishing green campuses. Waqf possesses relevant characteristics to support sustainability and has the potential to serve as an alternative funding source for green campus development. This research aims to construct a model for green campus development based on waqf empowerment. A qualitative approach is utilized in this study, relying on primary data collected from in-depth interviews with several individuals who were involved in waqf management and research. The secondary data was also used and gathered from various written documents concerning sustainability, green campuses, and waqf empowerment. The findings indicate that collected waqf can be allocated for the procurement of various facilities and equipment needed for green campus projects, including waste management, water management, and the provision of essential infrastructure to support green initiatives. Moreover, cash waqf can be developed through investment schemes in green sukuk and financing schemes for green SMEs or agriculture and plantations. These waqf-based facilities and equipment are intended to support academic and operational activities on campus. This study recommends a novel concept for optimizing the collaborative management of waqf to develop green campuses in various regions, thereby maximizing the potential of waqf to support environmental sustainability initiatives.

Keywords: Empowerment, Green Campus, Literacy, Sustainability, Waqf

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INTRODUCTION

Higher Education Institutions (HEI) are one of the vital stakeholders who play a role in achieving sustainable development goals. As a science development center that produces scientists from various cross-disciplinary disciplines, HEI, through its various campuses, is required to play an active role in campaigning for environmental conservation programs to support sustainable development. Not only contributing to socialization activities, the campus community is also required to become role models in developing sustainability within the internal campus, in order to provide a multiplier effect to all stakeholders and also the wider community (Bulut, 2021). Good practices implemented by the campus in advancing the concept of sustainability include the development of a green campus.

The green campus concept is one of the concrete steps to encourage sustainability starting from the scope of higher education. This concept is implemented in various academic activities, operational activities, infrastructure and facilities, as well as other supporting programs oriented towards environmental preservation, cleanliness and efficient use of energy (Dono et al., 2023). Currently, several universities in the world have transformed into green campuses by implementing several sustainability criteria. There are at least six criteria that are implemented as basic aspects in assessing and evaluating the implementation of green campus which have been formulated by UI GreenMetric.

In practice, implementing a Green Campus requires a certain funding allocation to finance various sustainability programs (Anthony Jnr, 2021). Regarding this matter, the implementation of sustainability is still faced with financial constraints in several aspects, especially in the HEI sphere, because the costs required are quite large (González-Ramírez et al., 2021; Musari, 2022). In this condition, alternative sources of financing are needed to support the implementation of green campus as a concrete step to implement sustainability and socialize it to the wider community. One opportunity option to become an alternative source of funds is the use of funds collected from the community dedicated to supporting the concept of sustainability within the campus. These options include Islamic social fund management schemes such as waqf which can be allocated to finance sustainability programs.

Waqf has an important role in maintaining the principles of environmental sustainability considering that waqf itself has special characteristics as an Islamic financial instrument that must be maintained eternally and oriented towards sustainability (Pitchay, Rahman, et al., 2018). Empowering waqf to support sustainability has been widely practiced in various countries. Like the practice of green waqf based on sharia crowdfunding which is empowered for the development of green industry in the agricultural sector.

Nevertheless, several previous studies still focused on waqf management in specific sectors partially in implementing sustainability. There have not been many studies regarding the optimization of waqf for the development of a green campus that is oriented towards environmental conservation and sustainability as far as the author has searched, especially in relation to the development of waqf management models in the scope of green campus implementation. This research aims to present a green campus development model based on mixed funding from Islamic social funding instruments in the form of waqf which is integrated into various sustainability programs in the campus environment, starting from *Tridharma* activities (three pillars of higher education), operational activities, to other supporting activities.

The presence of specific studies regarding the empowerment of waqf for the development of a green campus is an alternative solution for developing and promoting sustainability within the campus with the support of funding based on Islamic social funds. Apart from that, the waqf-based green campus development model has the opportunity to become a direct practical laboratory to increase education, literacy, and promote the importance of protecting and caring for nature and the environment through direct practice on campus which will have an impact on economic and social development. This waqf-based green campus model is an important means to contribute to increasing public awareness, especially within the campus area regarding the urgency of waqf and its relevance to nature and environmental conservation efforts.

LITERATURE REVIEW

Overview of Waqf Empowerment

Waqf is defined as a form of giving property such as buildings, plots of land, or other assets for public purposes. Waqf is carried out by holding and setting aside a person's assets in a way that ensures the benefits are distributed to certain beneficiaries (Rahman & Awang, 2018). Waqf is an important institution in the Islamic economic system to overcome the problem of poverty in society in addition to zakat and other alms instruments. In this case, waqf can play an intermediary role in improving community welfare which is part of the goals of sustainable development and also maqasid sharia. This is implemented by implementing the waqf empowerment program.

In implementing several empowerment programs, waqf has become an effective system for increasing the productivity of services and community needs such as health services, education, and also providing access to public facilities and goods. These various waqf empowerment programs make it an effective instrument to be used for economic and social improvement for the community. This can be seen from the management of waqf which is directed at providing public goods and services including supporting business and business operations

to help the poor, to helping provide employment opportunities, especially in the sector. agribusiness and industry (Majid, 2022).

Waqf and Sustainability

Waqf has now been optimized to contribute to environmental sustainability programs such as forest planting, renewable energy development, and green infrastructure projects. This is because efforts to preserve resources through conservation of seas, oceans, climate, ecosystems, water and energy coupled with increasing economic growth and industrialization are goals that are relevant to *maqasid sharia* and SDGs. Apart from that, waqf has also been widely used to develop education, research and technology development related to climate change mitigation and adaptation (Sukmana & Rusydiana, 2023). Moreover, the Cash Waqf Linked Sukuk (CWLS) instrument has been optimized to support sustainable development programs (Paul et al., 2021). Initiation of waqf management that supports sustainability programs has been carried out by various parties, until the emergence of the green waqf initiative. Green waqf refers to resource endowments that are specifically for environmental and ecological purposes, emphasizing sustainability and responsible management of natural resources.

Green Campus

The green campus program is a comprehensive program that requires active participation from the entire academic community, starting from students, lecturers, education staff and all stakeholders. Concrete steps are needed to increase understanding and awareness from all parties regarding the importance of sustainability so that it can be implemented on campus (Dono et al., 2023). Implementation of the green campus program shows the commitment of the campus community as a whole in minimizing negative impacts on the environment that arise due to natural damage, exploitation of natural resources and energy, ineffective waste processing, and increased pollution. On the other hand, the implemented green campus program will contribute to improving the welfare of the campus community by improving health, more efficient spending, and other positive impacts from implementing a green campus (Bandeira & Lobão, 2023). To make this happen, several green initiatives need to be carried out on campus, such as reducing and processing effective waste, waste management, efficient use of energy, managing water use, providing a healthy work environment and clean indoor air (Anthony Jnr, 2021). These various programs need to be carried out by the university by involving all academics on campus.

RESEARCH METHODOLOGY

This research uses a qualitative approach through documentation techniques which are applied by reviewing and analyzing several documents such as journal articles, books, reports and other official documents. In this research, the author focuses on the potential of waqf in financing sustainability programs, especially at the campus level by developing a waqf empowerment model for green campuses. To strengthen the analysis, the author conducted in-dept interviews with five experts with their respective competencies and capabilities. To obtain a comprehensive perspective, this research involved several informants including representatives of regulators, practitioners and academics who are concerned with waqf expertise and sharia economics. The input notes from these experts also became a basis for the author in formulating and developing the proposed model.

Table 1. In-Depth Interview Informants

No	Informant	Affiliation	Representation
1	DS	Trubus Iman IBS	Waqf Practitioner
2	LH	Waqf Millenials and YARSI University	Waqf Practitioner
3	NH	Indonesian Waqf Board	Regulator
4	NA	Tazkia University, Bogor, Indonesia	Academics
5	RL	Productive Waqf Forum	Waqf Association

Source: Authors' processed data, 2024

The data used in this research are primary and secondary data. Primary data was obtained from in-depth interviews with respondents who included regulators, practitioners and academics in the fields of waqf and sharia economics. Apart from that, the author also uses secondary data collected from several reputable international journals (Scopus-Indexed), reports, books, regulations published by relevant authorities, and also other official documents. In the next stage, the collected secondary data is analyzed using content analysis techniques to provide in-depth understanding and relevant knowledge related to the problems discussed in this research. The results of in-depth interviews and literature reviews are used by the author as a basis for designing a model that will be implemented by waqf managers and universities in optimizing waqf empowerment to build green campuses.

ANALYSIS AND DISCUSSION

The Proposed Waqf Empowerment-based Green Campus Model

The growth in population tends to have an impact on several sustainability problems, such as an increase in the amount of waste which is not accompanied by good waste management. Likewise, the amount of plastic used is increasingly widespread, giving rise to various characteristics and types of waste and tends to become a problem in its management. This also includes the problem of water

use which tends to be wasteful and not managed well. This condition also occurs within the campus community where the population of the campus community is also relatively large, which has an impact on the emergence of various environmental sustainability problems on campus and its surroundings (Najad et al., 2018). These various sustainability problems require campuses to carry out effective management of waste and waste, water, and environmentally friendly management of infrastructure. This is one of the driving factors for presenting a green campus.

This research proposes a waqf empowerment model called the Waqf Empowerment-based Green Campus (Web Cam) Model which raises novelty in the form of the idea of developing a green campus based on integrative waqf empowerment, through the use of waqf assets (goods) and cash waqf. There are at least four activities depicted on the Web Cam Model related to the distribution and utilization of waqf in the green projects sector on campus, namely waste management, water management, green infrastructures and green investments. The four green projects are also linked to mechanisms for collecting waqf on campus, as well as utilizing the results of green projects for literacy and outreach activities on campus so that they provide real beneficial impacts. Table 2 summarizes several aspects of the use of waqf in implementing green projects on campus which were validated using in-depth interviews and also a literature review of previous research results.

Table 2. Aspects of Utilizing Waqf for Green Projects

No	Utilization Program	Informants' Statement	Supporting Literatures
1	Waste Management	<i>At that time, we conceptualized how this waste could be converted into renewable energy. We see that this waste is a problem in Indonesia and other countries. We want the existing waste, both organic and non-organic, to be converted into electrical energy. (Informant 2)</i> <i>In the future, waqf can also be used for waste management, to manage waste. That requires machines, requires land and so on. (Informant 4)</i>	Najad et al. (2018); Thaker et al. (2022); Riani et al. (2023); Wildana et al. (2022); Hamdani et al. (2022)
2	Water Management	-	Thajudeen et al. (2018); Sugesti et al. (2023); Roslan et al. (2024)
3	Green Infrastructures	<i>Almost at (the Islamic boarding school we manage) Trubus, the infrastructure comes from the proceeds (utilization and empowerment) of waqf. So we don't burden</i>	Ari et al. (2021); Bulut et al. (2023); Majid et al. (2022); Bandeira

No	Utilization Program	Informants' Statement	Supporting Literatures
		students (with additional costs). (Informant 1) There are only a few institutions that have focused, such as the Al-Quran Waqf Board which uses solar panel waqf in 3T (Tertinggal, Terdepan, Terluar-Disadvantaged, Frontier, Outermost). The Istiqlal Mosque also uses green energy using a waqf basis. (Informant 2) The first starts with asset waqf, for example there are people who waqf land to use for solar panels. That's possible. There is also the building waqf, building waqf, that is much more important in my opinion for beginnings like this. If we talk about costs, it can reduce the costs of higher education. (Informant 4)	et al. (2023); Najad et al. (2018)
4	Cash Waqf Program	The core is in agribusiness, the core is in plantations. Whatever the activity, the connection is integrated with the core. Our program is called Trubus Sentra Agribusiness. This is all pure empowerment of waqf assets. (Informant 1) How forests in Aceh can restore the ecosystem through reforestation. So the Aceh forest waqf, Bogor forest waqf, and Bandung forest waqf were born. (Informant 2) What is currently developing is forest waqf in the Bogor area, in Aceh and in Pekanbaru. (Informant 3) Waqf money can be allocated to small projects first on the green campus, because green campus projects are quite expensive. [...] The risk is quite big, you need to be careful. [...] Can be invested first, the results can be allocated to renewable energy. [...] So for the green project aspect, it seems that it must be through financial instruments, for example through the issuance of sukuk and so on to ensure security. (Informant 4)	Khan et al. (2023); Siregar et al. (2024); Ascarya (2023); Kachkar (2017); Azizan et al. (2022); Musari (2022)
5	Literacy and Socialization Program on Waqf and Sustainability	There is mutual benefit between the campus and the waqf management in the synergy between the two, therefore if you look at it from the Tridharma, everything is included, from waqf education is needed, then community service should be like that, then	

No	Utilization Program	Informants' Statement	Supporting Literatures
		research. It would be a shame if the waqf nazhir had to research it himself. (Informant 1) We have implemented the collaboration between the waqf institution and campus in community service. There has also been a lot of research, we collaborated with several lecturers. (Informant 2) Campus can enter from the perspective of community service. And the second is from the research side. Contribute ideas related to Green Waqf for publication. And thirdly, from an educational perspective, the campus has started to obtain operational permits for the zakat waqf study program by including the Green Waqf topic. (Informant 3) If we look at the earliest, it was more about awareness. And this is not enough. Then evaluate development. Campuses can play a role on all fronts. We can carry out campaigns, outreach. [...] You can establish a Study Center that combines the knowledge of many lecturers, so that it is used to develop waqf, both in terms of research, then awareness outreach to the community, by creating a pilot project, by creating a green campus. (Informant 4)	

Source: Authors' processed data, 2024

Waqf Collection

Waqf collection is carried out in the form of waqf in the form of assets/goods or money. The asset waqf receipt scheme is implemented either in the form of direct transfer of assets or through a cash waqf scheme, by collecting funds from the waqif for the procurement of specified goods. This waqf collection is carried out both from internal campuses such as leaders, lecturers, education staff, students, and other parties as well as from external circles or the general public. Technically, the collection of cash waqf within the campus area, especially from leaders, lecturers and also educational staff, can be done in the form of regular salary deductions based on the agreement of campus employees, or through direct payments through the channels provided (Pitchay, Thaker, et al., 2018). This mechanism provides an opportunity to determine predictions of the potential for waqf collection so that it can become a basis for developing empowerment programs.

Waqf Utilization

Waqf utilization is carried out within the campus to support the development of a green campus by being allocated according to the waqf designation desired by the wakif. Empowerment of waqf in the form of assets and endowments through money for asset purchases is carried out through waqf offering and socialization programs to the campus community, both internally and externally. In its use, waqf assets are allocated to at least three programs, namely waste management, water management, and the provision of green infrastructure as depicted in the Web Cam Model as shown in Figure 1.

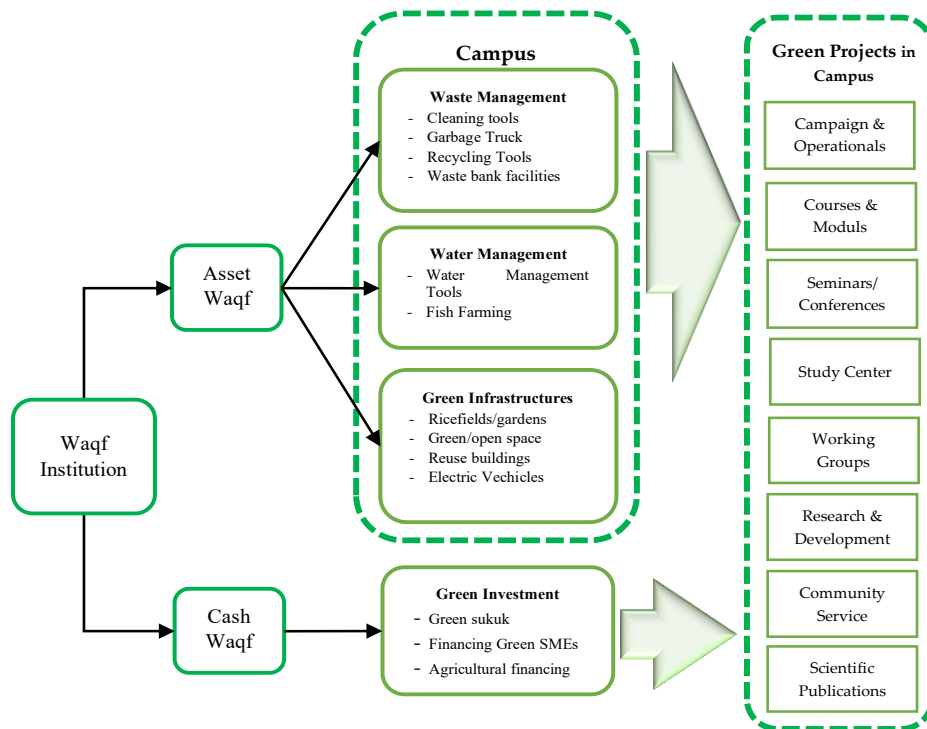


Figure 1. Waqf Empowerment-based Green Campus (Web Cam) Model

Waste Management

The larger the population of the campus community, the amount of waste production per day will also increase rapidly (Najad et al., 2018). This condition will become a problem if it is not managed and mitigated properly. Waqf needs to be optimized to overcome these problems by optimizing the procurement of various facilities and equipment to support waste management (Thaker et al., 2022). In practical terms, waqf is allocated for the procurement of cleaning

equipment including trash cans for separating types of waste between organic and non-organic waste. The waste sorting process is continued by dumping the waste to the final disposal site using a rubbish truck which is also provided by the waqf. Apart from that, the waste processing process also needs to be carried out using a waste recycling scheme so that there is a need for waste recycling facilities and equipment, starting from traditional and modern recycling systems. Furthermore, waqf also needs to be allocated to support the provision of a waste bank that can be utilized by the campus community.

Water Management

The issue of water scarcity has been experienced by several countries (Roslan et al., 2024). An effective water management mechanism is needed to preserve water by utilizing existing water resources, including optimizing waste water management so that it can be reused in several activities. Water management is needed by utilizing clean water and waste water to be used according to its intended purpose as a concrete step to support water conservation. Utilization of rainwater is also required through a filter process so that it can be used daily (Sugesti et al., 2023). Efficient use of clean water and effective management of waste water will be able to increase water conservation efforts, especially on campus. This program is supported by the provision of filter equipment and water distillation or irrigation channels to distribute waste water within campus areas such as canteens, mosques and pantries in campus rooms. These various equipment can be provided through a waqf scheme which is collected in the form of direct asset waqf or cash waqf. As a development option, the distributed water can also be collected into ponds built on waqf land and used for fish farming or other productive businesses.

Green Infrastructures

Waqf is a potential source of funds in developing sustainability programs, including infrastructure development and environmentally friendly projects. Utilizing land in the form of waqf land owned by the campus as agricultural land and plantations is an alternative for developing agricultural laboratories and plantations as well as an option for productive waqf development. Agricultural and plantation management patterns have also been developed by prioritizing environmental conservation principles by minimizing the use of chemicals that can pollute the soil (Majid, 2022). To increase the optimization of existing buildings, waqf is allocated to the construction of new buildings with environmentally friendly designs and architecture. As another option, old unused buildings can be redesigned to accommodate environmentally friendly concepts so that they can be optimized properly (Bulut, 2021). In the aspect of providing infrastructure, the electronic goods used need to prioritize the aspect of efficient

use of electricity. Waqf assets can be allocated by procuring several energy efficient equipment and electronic goods thereby reducing electricity consumption. This also includes the need to transform alternative energy sources such as solar panels which may become waqf objects (Bandeira & Lobão, 2023). Apart from electronic goods, campuses also need to be supported by environmentally friendly transportation facilities such as electric vehicles or bicycles. The use of environmentally friendly means of transportation is expected to reduce carbon emission levels (Najad et al., 2018). Later, these environmentally friendly vehicles can be used by the entire campus community.

Green Sukuk

Waqf management as an Islamic social funding instrument has now developed through an integration process with commercial funds, through sharia banking institutions. It cannot be denied that sharia banking as an intermediary institution has great potential in collecting and managing waqf funds, which will increase economic growth. This synergy and integration can be applied at the campus level by involving sharia banking to participate in collecting and managing waqf funds from the campus community. Apart from that, waqf management has also been studied to be combined with sukuk through various contracts that are in line with sharia principles (Khan et al., 2023). Furthermore, the waqf collected from the campus community is channeled and invested in green sukuk instruments which will be used in sustainability development sectors. This includes an integration scheme for managing green sukuk and CWLS (Musari, 2022). The benefits received are to support the implementation of campaign and education activities as well as sharia-based sustainable financial literacy as well as other green project activities on campus, especially Tridharma activities. With the characteristics of waqf which must prioritize the prudential aspect, the sukuk instrument is a priority aspect in empowering cash waqf. Apart from that, waqf fund distribution activities are also currently being studied to be developed into an investment process through share ownership in sharia banks (Siregar et al., 2024).

Financing Green SMEs

Management of waqf funds must be carried out comprehensively and provide a positive and sustainable impact on society. Integration between social and commercial funds also needs to be implemented in the microfinance aspect. Among the forms of integration that can be carried out is an integrative waqf management application at *Baitul Mal wa Tamwil* (BMT). In the aspect of financing distribution, the best scheme that can be applied is the distribution of financing to SMEs, especially those who are members of the BMT. (Ascarya, 2023). Specifically in the sustainability aspect, the distribution of cash waqf funds is also carried out to SMEs who implement the Go Green principles (Green

SMEs). In general, waqf has been optimized as a source of microfinance funds that can contribute to improving the socio-economic conditions of society (Kachkar, 2017). Providing capital assistance to run a business will create individuals who are enthusiastic about fighting to make a living. This will have a positive impact on the entry of poor people into the workforce and have a positive impact on economic growth. The distribution of waqf funds to the SME financing sector needs to be carried out through a feasibility study, monitoring and evaluation process so that waqf management can run as expected.

Farming Financing

Empowering cash waqf for the agricultural and livestock sectors can help farmers and livestock breeders from local communities to finance the development of their agriculture and livestock. This includes the use of idle waqf land for use as agricultural land or livestock as well as fattening livestock (Azizan et al., 2022; Sukmana et al., 2024). The agricultural products obtained are distributed proportionally to the waqf managers and also the farmers. This pattern is one solution for agricultural financing which is often faced by farmers. However, as with distribution to SMEs, agricultural financing also needs to be carried out with strict feasibility studies, ongoing monitoring and evaluation to monitor the agricultural processes carried out so that they are productive and produce optimal harvests.

Academic and Operational Activities related to Waqf-based Sustainability

Various activities, programs and operational activities to support the implementation and development of sustainability are carried out on campus by utilizing various green infrastructure facilities built with waqf. This shows the contribution of waqf in developing sustainability and the suitability between waqf development and sustainability. Apart from that, all operational costs required to implement the various programs are supported by waqf which is the result of the development and management of waqf assets in the form of money, as well as waqf assets in the form of goods whose use has been made productive. This scheme can be seen from Figure 2 which shows the management of cash waqf funds into several sharia investment and financing instruments, where the results of these investments are allocated to support the implementation of academic programs and other supporting activities. Among the first programs that need to be carried out are promotional and educational activities about sustainability to the entire campus community. Education and outreach are important to build awareness among the campus community so that they will support the implementation of green programs.

These educational activities also need to be supported by real action activities to support sustainability in the form of an invitation to the entire campus

community to reduce plastic consumption, save energy through the use of lights, air conditioning and other electronic devices, as well as an invitation to maintain cleanliness and sort waste through the trash cans provided by the waqf. To increase education and literacy related to sustainability, the campus organizes learning about the concept of sustainability through various classroom lecture sessions, public lectures, and also practitioner lectures. Apart from that, various scientific meetings such as seminars and conferences, both national and international, are also important media in socializing and developing sustainability literacy to the campus community and external parties in general. In order to increase studies and discussions related to sustainability, the campus has formed several working groups and sustainability study centers. The formation of these scientific groups can become the center of a scientific ecosystem related to sustainability, thereby making studies and discussions related to sustainability more lively.

Sustainability studies also need to be included in the Tridharma activities carried out by lecturers, through teaching, research, community service, until the output of each of these activities is in the form of scientific or other publications. Teaching is carried out by including sustainability topics in several courses, or by teaching special courses related to sustainability. The lecture is supported by lecturer research activities directed at sustainability research topics. Apart from that, teaching and research activities are also strengthened by community service which refers to sustainability education to the community, especially to promote and campaign for sustainability to the community.

CONCLUSION

Green campus development has become a necessity in line with the increasing amount of waste generated from academic and operational activities on campus. However, these efforts are still faced with several obstacles such as the lack of public awareness and knowledge regarding sustainability, the lack of participation and collaboration from the academic community, as well as the funding aspect which is the main challenge, considering that implementing a green campus requires quite large funds. Waqf Empowerment-based Green Campus (Web Cam) Model is the answer to this problem. In its implementation, the Web Cam Model formulates the collection of waqf from internal and external campuses, in the form of cash waqf, asset waqf, or asset waqf through money. Furthermore, the collected waqf is allocated to several green initiative programs in developing a green campus. Waqf assets are collected and campaigned to the campus community and external parties to procure several facilities and equipment to support waste management and water management projects. Apart from that, asset waqf is also promoted to the community to provide infrastructure that supports green initiatives in general. Meanwhile, cash waqf is distributed and

developed through investment in green sukuk, as well as channeled to finance SMEs that implement green business. Opportunities are also open to channel cash waqf funds to the agricultural financing sector. All cash waqf distribution processes are carried out with the principle of caution and regular monitoring and evaluation are carried out. The development of the Web Cam Model is expected to be a new perspective in developing the implementation of environmental sustainability within the campus area based on waqf empowerment, so that it can provide benefits to the wider community.

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