



BADAN
WAKAF
INDONESIA



GREEN WAQF FRAMEWORK



Green Waqf Framework



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Foreword

United Nations Development Programme (UNDP)



Norimasa Shimomura
UNDP Indonesia Resident Representative

It brings me great pleasure to present you the final report of the 'Green Waqf Framework,' which unpacks the potential and strategies of Green Waqf as an innovative instrument to support Indonesia's commitment to meeting the 2030 Agenda and its Nationally Determined Contribution (NDC) pledge.

Financing the Sustainable Development Goals (SDGs) and climate action in Indonesia requires multi-stakeholder collaboration. It is estimated that the country needs at least USD 4.75 trillion to achieve the SDGs (SDGs Roadmap, 2019) and USD 322.86 billion to meet its climate targets (Indonesia's Updated NDC, 2021) by 2030. This need has grown more pressing due to the pandemic, which had pushed governments all around the world to redirect part of their public resources. In this context, leveraging innovative financing is critical to closing the funding gap and Islamic finance could play a crucial role due to its striking commonalities with SDGs.

The global value of Islamic finance assets is expected to hit USD3.8 trillion by 2022, but the real opportunity lies in Islamic finance's inherent core of fairness and transparency. The principles of Islamic finance are aligned with the SDGs and the strategy to meet the NDC, with a strong emphasis on inclusion and environmental preservation. Indeed, a new framework is needed if we are to optimize Islamic finance.

The Green Waqf framework research development covers background, conceptualization, business model, plan, stakeholder mapping, pilot study/best practices, within waqf and climate change initiatives. It involves diverse stakeholders in the process, such as the government, private sector, and grass roots communities. We hope that this report can also serve as a reference for Islamic finance from Indonesia which has demonstrated advancing Islamic finance for sustainable development and addressing the climate crisis. In addition, the report provides solid evidence that waqf could generate revenue and stimulate returns or profit for future financing. Waqf may be a suitable option for financing or promoting social welfare, while avoiding economically burdensome interest rates.

UNDP's collaboration on Green Waqf demonstrates our strong commitment to advancing sustainable finance with key Islamic charity bodies in Indonesia, along with the Government of Indonesia. This publication would not have been possible without our meaningful collaboration with the Indonesian Waqf Board (Badan Wakaf Indonesia).

I hope that the findings in this report can serve as a data-driven approach to more effective and impactful drives to accelerate the COVID-19 recovery as well as our collective effort to meet the SDGs and address the climate crisis.

Key Messages

The Indonesia Waqf Board (Badan Wakaf Indonesia)



Prof. Dr. H. Mohammad NUH, DEA
Chairman

Bismillaahirrahmaanirrahim

Alhamdulillah Robbil 'Alamin, all praises be to Allah who sent His guidance (sharia), such that we know waqf that is hugely beneficial to the civilization. May peace and blessings always be given to the Prophet Muhammad, who taught us about waqf, such we can follow his path and get blessings because of following him.

Alhamdulillah waqf continues to develop in society. Waqf is no longer limited to mosques, madrasas, and tombs, but can touch wider issues through productive waqf management and various instruments including cash waqf, Cash Waqf Linked Sukuk (CWLS), and so on. It is expected that current development of waqf would provide positive impact and benefit for the society.

Talking about the direction of development today, in various forums the issue of sustainability has raised great concerns from countries all over the world. The United Nations in 2015 has launched the Sustainable Development Goals or SDGs 2030 in which one of the most important development targets is related to the nuances of protecting environmental sustainability. The theme of sustainable development is very relevant to waqf, considering that waqf is generally directed to the management of long-term assets, even pledged to be able to provide benefits forever until the end of the time (qiyamah). In addition, waqf can be an alternative instrument for financing projects related to SDGs, including those that are green or environmentally friendly through internal community sources which are then managed productively, professionally, and sustainably.

Therefore, the presence of the Green Waqf Framework research needs to be welcomed by all stakeholders in the waqf sector, because this research can be the basis for the development of environmentally friendly waqf in the future. It is hoped that in the future the development of waqf can provide benefits for increasing spirituality and the economy of the community while maintaining environmental sustainability.

Finally, I hope that the presence of this research will not be the end, but can actually ignite a wider discourse on waqf that is environmentally friendly and in turn will further excite the waqf movement in Indonesia.

Key Message

Ministry of Religious Affairs, Republic of Indonesia



Drs. H. Tarmizi Tohor
Director of the Zakat and Waqf Empowerment

Bismillaahirrahmaanirrahim

All praises be to Allah that by His will, this Green Waqf Framework research report is published. Peace and greetings may always be given to the Great Prophet Muhammad SAW.

Waqf is an integral part of the Muslim civilization. It can be observed that various important monuments in the civilization of this ummah throughout history are always founded through waqf deed, be it the Prophet's Mosque in Medina, Al-Azhar Mosque, up to various Islamic boarding schools scattered all around Indonesia today.

However, waqf is not solely to be used for building mosque or any spiritual only relate places. Waqf must be able to be present in the social space and provide solutions to the problems experienced by the public. In the past, social issues such as the economy, education, health, and others could be handled well with the presence of various waqfs that provide affordable and services improving community's life.

At present, one of the crucial problems experienced by society, not only in Indonesia but also globally, is regarding environmental problems. Climate change, high pollution, and threats to energy security require comprehensive solutions and involvement of various stakeholders. Therefore, the Green Waqf Framework research is relevant, which is expected to become a strong academic foothold for various waqf projects that are aimed at being environmentally friendly.

This is in line with the policy direction in the Strategic Plan of the Ministry of Religious Affairs of the Republic of Indonesia 2020-2024, namely "to increase in waqf assets". Obviously, the increase in waqf assets is not only in terms of quantity, but also the quality of management including its impact on the environment, realizing Islam as a religion that is blessings for all (Rahmatan lil 'Alamin).

The Green Waqf Framework is a guideline for expanding waqf instruments for the environment to provide a balance between development and protection of the environment. Islam has taught us to protect the environment such as planting trees and prohibition cutting trees during the war. In addition, this document becomes a reference for innovative action programs that can be developed in the implementation of the waqf project.

Green Waqf can be an approach to Islamic da'wah about environmental conservation. In such a way that waqf will be great and become the strength of the nation's economy if it is supported simultaneously and synergistically by the government, society, business world, financial industry, research institutions, and universities, as a laboratory for the development of waqf.

Finally, we hope that the Green Waqf Framework research can be useful for stakeholders in the waqf sector, realizing waqf that are sustainable and beneficial for the earth and the environment.

Executive Summary

GREEN WAQF FRAMEWORK

The Indonesia Waqf Board (BWI) in collaboration with United Nations Development Programme (UNDP-Indonesia), Waqf Center for Indonesian Development and Studies (WaCIDS), Green Waqf Organization, proposed a Green Waqf Framework, which covers the concept, stages, successful indicators, stakeholder mapping, and policy implications for future development of Green Waqf in Indonesia, based on experiences of related stakeholders in Indonesia.

Chapter 1 elaborates existing climate and energy issues in Indonesia as well as challenge on financing the programs related to aforementioned issues, especially to fulfill Indonesia's Nationally Determined Contribution (NDC) for Paris Agreement. From that background, opportunities of Green Waqf implementation are highlighted as part of solution to overcome environmental issues, including climate and energy as mentioned earlier.

Chapter 2 explains concept of waqf and its potential to solve environmental and social welfare problems. In general, waqf is defined as donated property used for the benefit specified by the donor, in which the purpose must be benevolent, normally serving community interests. Waqf principles, i.e., i) perpetuity; ii) irrevocability; and iii) inalienability, great potential charity tool for forming solid not-for-profit organizations that can address a variety of social needs in both Muslim and non-Muslim societies. Related with environmental issues, waqf may be utilized in form of (but not limited to) land trust committed in perpetuity to support charitable objectives, like agricultural and range research, wildlife propagation, public cisterns, and gardens, or in the form of a fund to finance such projects. Meanwhile, in terms of social welfare issues, waqf may tackle financial difficulties driven social problems such as poverty, access for education and healthcare as well as financial assistance for community development programs.

Chapter 3 focuses on Green Waqf Framework. Green Waqf itself is defined as the utilization of a waqf asset to support the attainment of ecological balance and sustainability, while also providing a social and economic impact for society. This chapter also discusses four stages proposed to ensure implementation of Green Waqf Framework, namely: i) preconditional stage; ii) consolidation stage; iii) project development stage; and iv) mainstreaming stage. Each stage contains stakeholders' mapping and steps taken towards implementation.

Chapter 4 provides business model foundation for Green Waqf Project implementation, including stakeholders' mapping and analysis, which mainly consists of Islamic finance-related stakeholders and green-related stakeholders. Also, a pilot project on tamanu plantation is proposed. Tamanu/Nyamplung/Calophyllum inophyllum is pioneer plant, meaning that it is suitable to be planted in barren land or any harsh condition, with potential for both land restoration and as an alternative source of biodiesel. Also, proposed budget and steps-taken for the pilot project is elaborated in this chapter.

Chapter 5 elaborates several evidence-based practices on environmental related waqf projects, including cases in Indonesia (Waqf Forest and Berbagi Listrik Projects) as well as global cases (Kuwait Company for Environmental Services and Piped Water System in Shiraz City).

Chapter 6 summarizes policy recommendations to support implementation of Green Waqf Framework for main stakeholders related, including government, waqf authorities, religious scholars, and higher education institutions, as well as recommendations on technical aspects for implementation.

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CHAPTER 1

INTRODUCTION

CHAPTER 1 INTRODUCTION

The ever-increasing global issues around climate change and energy security require urgent solutions. One of the most important issues is greenhouse gas (GHG) emissions, for which the energy sector is among the main emitters. These issues are a growing concern in Indonesia too, with UNICEF (UNICEF, 2021) recently noting that Indonesia is among the top 50 countries at a high risk from climate change, particularly coastal floods and air pollution, with many children highly exposed to vector-borne diseases.

To this end, states around the world agreed to a legally binding international treaty on climate change, called the Paris Agreement or Paris Accord, in 2015. As part of this agreement, every single country among the 196 parties that signed up to the Paris Agreement, including Indonesia, needs to establish their own Nationally Determined Contribution (NDC), which represents their climate action plan to cut emissions and adapt to climate impacts. Countries are expected to meet the targets in their NDC, and even to further increase their climate ambitions over time. Among the key solutions proposed by many is a move to renewable energy, which would see a shift from the current predominant use of fossil fuel-based energy to a more environmentally friendly energy, a so-called energy transition. For countries with large tropical rainforests, such as Indonesia, a transition from deforestation and forest degradation is also urgently needed.

To fulfill this commitment, substantial funding is required. There is requirement for an increase of at least 590% in annual climate finance to meet internationally agreed climate objectives by 2030 (Buchner et al., 2021). The Global Landscape of Climate Finance 2021 noted that existing sources of financing come from 61% debt, 33% equity investment, and 6% grant. Indonesia requires USD534.15 billion and USD322.86 billion to achieve the SDGs and climate target respectively by 2030 (Ministry of National Development Planning, 2019).

Since the financing requirements represent the main challenge in implementing such a commitment, there is a necessity to seek funding alternatives (ADB, 2020). While the green sukuk has been a good initiative from Indonesia, Islamic finance has several other promising innovative means to contribute to addressing the strategic issues of climate change and energy security while promoting a zero-waste circular economy and green economy and finance (Khan, 2019; Listiana et al., 2022; UNDP, 2021).

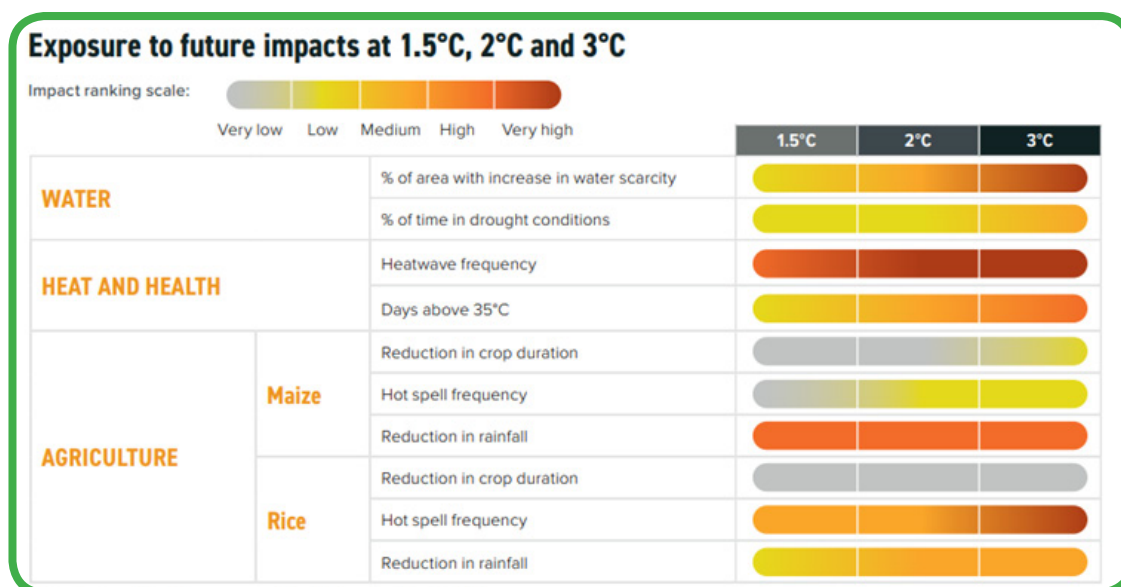


1.1 Climate Change For Indonesia

Indonesia's commitment to reducing emissions and increasing its climate change resilience under the Paris Agreement is mainly guided by its Nationally Determined Contribution (NDC) as well as its long-term strategy on low carbon and climate resilience (LTS-LCCR). It is widely believed that climate change will increase the risk of hydro-meteorological disasters, which account for around 80% of the disaster occurrences in Indonesia. According to a Climate Transparency Report (Climate Transparency, 2021), Indonesia is ranked 9th among the G20 countries that are most vulnerable to climate change.

The World Bank's global risk analysis ranked Indonesia as 12th out of 35 countries that face a relatively high mortality risk, with a high exposure to flooding and extreme heat (Climate Transparency, 2021). The country's enormous coastal population is particularly at risk of sea-level rises. This segment of the population is mostly dependent on agriculture, marine-culture, and fishing, all of which could be severely impacted by extreme temperature, rainfall, and other extreme weather, climate, and/or ocean events caused by climatic changes. Some specific environmental issues in Indonesia, such as the deforestation of mangrove forests (i.e., in Java) to make room for fish farms, could further worsen the impacts from climate change (Alisjahbana & Busch, 2017). On the other hand, there are around 14 million hectares of critical and highly critical land and hundreds of thousands of waqf land sites that could potentially be utilized for green projects (Kemenag, 2020; Nugroho, 2020).

Figure 1. Climate Change Exposure to Future Impact in Indonesia



Source: Climate Transparency (Climate Transparency, 2021)

Furthermore, climate change is a potential threat to the country's food supply, energy, environmental security, water, and health. Based on a sensitivity analysis, it has been predicted that future climate change impacts could cause a loss of 3.45% of the national GDP by 2050 (Ministry of Environment and Forestry, 2021). Further, ecosystem damage and disaster will have a significant impact on the four necessities for society, i.e., food, water, energy, and the environment, and the potential loss could even be much higher than what is predicted.

Indonesia's commitment to tackling climate change impacts is also reflected in its ratification of the Paris Agreement through Law No. 16/2016. According to Indonesia's updated NDC in 2021, Indonesia's forestry and land use sector and the energy sector will contribute the most to the emissions reduction target, accounting for up to 97% of the total commitment. A key government aim is for the forestry sector to become a net carbon sink by 2030 (Ministry of Environment and Forestry, 2021). The NDC describes five sector categories and the proportions of their contribution to efforts to reduce GHG emissions overall by 29% in 2030: forestry (17.2%), energy (11%), agriculture (0.32%), industry (0.10%), and waste (0.38%). As for adaptation, Indonesia's commitments include increasing economic resilience, social security, and livelihoods, as well as ecosystem and landscape resilience and conditioning the country for climate resilience.

Government Regulation No. 46/2016 on Strategic Environmental Assessment (Kajian Lingkungan Hidup Strategis/KLHS) is one of the key translation efforts to date to deal with climate change, which has involved the Ministry of Environment and Forestry's efforts to deal with climate change. Parallel with the aforementioned effort, the Ministry of Energy and Mineral Resources is also one of the most vocal ministries in attempts to achieve Goal 7 of the SDGs, which covers providing affordable and clean energy. At the same time, the Indonesian government is continuing to strive to increase the utilization of new renewable energy (NRE) to generate electricity.

To align with its development goals, Indonesia views the achievement of archipelagic climate resilience as dependent on implementing a comprehensive adaptation–mitigation program and disaster risk reduction strategy. Supporting both in the form of soft technology and hard technology interventions is an aspect that must be met and can be done through empowerment and capacity building, improving basic health and education services, promoting low-emission-technology innovation, and performing sustainable natural resource management in line with sustainable principles and good governance. To achieve these, the government has made various efforts through developing and implementing various financial policies and regulations. In July 2020, the Indonesian Fiscal Policy Agency of the Ministry of Finance, along with the UNDP, announced plans to develop a climate change fiscal framework. The framework describes the allocations for the NDCs and the priority sectors for handling climate change.

1.2 Energy Challenges in Indonesia

Energy is an important part of people's lives because almost all human activities require energy. From basic infrastructure, to food and agriculture, health, and transport, the supply and use of energy in every sector in Indonesia requires careful attention and planning from the government and all parties involved.

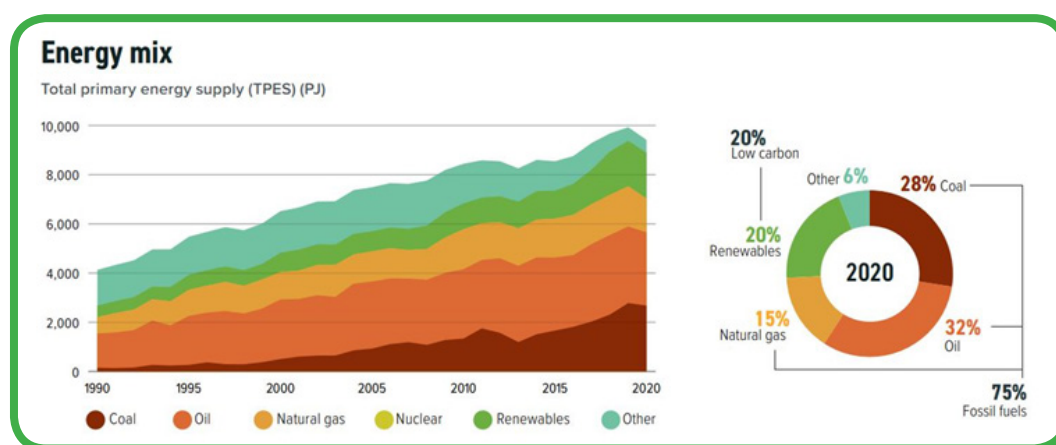
The energy supply in Indonesia is still dominated by fossil fuels, which account for up to 74.7% of the energy mix. Alongside this, the carbon intensity of the energy sector has risen due to the increase in the share of coal in the energy mix. Indonesia's energy intensity is decreasing at a slower rate than the G20 five-year trend (Climate Transparency, 2021).

Energy security is another concern. Recent years have seen a decline in the country's oil reserve (Figure 1), a thermal coal export ban in Indonesia, and the increasing cost of fossil fuels worldwide. Moreover, Indonesia is still facing many energy challenges, such as energy

availability, affordability, open access for energy users (accessibility), and long-term resilience (sustainability). Indonesia needs to make maximum use of all its potential natural, human, economic, and social resources to achieve a level of energy independence, ensure energy availability, and reduce its dependence on foreign parties.

Consequently, Indonesia has embarked on a mixed energy use policy. Specifically, Government Regulation No. 79/2014 on National Energy Policy set out the country's ambition to transform, by 2025 and 2050, its primary energy supply mix, with projected shares as follows: a) new and renewable energy to make up at least 23% by 2025 and at least 31% by 2050; b) oil should be less than 25% by 2025 and less than 20% by 2050; c) coal should be a minimum of 30% by 2025 and a minimum of 25% by 2050; and d) gas should be a minimum of 22% by 2025 and a minimum of 24% by 2050 (Ministry of Environment and Forestry, 2021). These targets are driving Indonesia's efforts to maximize all of its potential for renewable energy. Renewable

Figure 2. Indonesia's Energy Mix From 1990-2020



Source: (Climate Transparency, 2021)

1.3 Opportunities From Green Waqf

Waqf is a promising instrument in Islam that can be developed as a solution to address the problems mentioned above. Waqf can be seen not only as a religious activity but also as a means for the perpetual management of a productive asset/fund. The Green Waqf initiative can be offered as a scheme that can support solutions to tackle climate change, energy transition, and other environmental issues. The Green Waqf Framework was developed to offer an innovative Islamic finance instrument to help achieve the goal of sustainability and as a solution to aid the adaptation to climate change and meet energy needs in a low-carbon way, while also reforesting the forests.

Indonesia's proposed NDC Adaptation Roadmap strategy consists of 8 strategies, including building agreement, coherence, and an enabling environment. Currently, there are more than 17,000 islands in Indonesia that are not being used optimally, both in terms of reforestation and energy use. The main obstacle in many cases is the funding factor, which can be resolved through waqf schemes that can be used to mobilize productive and strategic assets. To make this happen, coordination between different levels of government and a political will to work together toward maximizing the potential in the land-based sector are needed (Anderson et al., 2016; WaCIDS, 2021).

Environmental protection must be an integral part of the strategy. According to Mentis (Mentis, 2020), efforts to protect the environment must be continuously carried out, particularly in terms of the rehabilitation of critical land and promoting ecotourism, which can empower community members to participate in preserving the environment. The study concluded that the decision on what activities and projects to permit should be based on what is physically and financially fixable based on current knowledge. This is in line with the launch of the National Cash Waqf Movement (Gerakan Nasional Wakaf Uang / GNWU) by President Joko Widodo, which can provide alternative financing for the implementation of green waqf projects.

Among the focus of the green waqf project is the development of tamanu or Nyamplung (*Calophyllum inophyllum*) trees that can survive on critical land so that they can become part of the solution to 14 million critical and very critical land areas in Indonesia, i.e., lands that have experienced function decline (degradation). Tamanu can be used as materials for various sectors, such as the energy, wellness, and halal industries, and can impact industries, such as through carbon trading and net-zero instruments, and social empowerment. There is also technical research underway on producing biofuel using fruits from the plantation. By optimizing waqf in strategic sectors, it can help achieve the goals of sustainable development while promoting prosperity for the people of Indonesia.

This report aimed to identify the relevant strategic issues and propose a green waqf framework, covering the concept, stages, successful indicators, stakeholder mapping, and policy implications based on the experiences of Indonesia. It is expected that it could provide guidelines for other parties or countries to adopt a similar project and/or framework, which would certainly support efforts around the SDGs, particularly numbers 7 (affordable and clean energy) and 13 (climate action). The Green Waqf Framework is thus elaborated, and then we present some proposed business models and evidence-based practice, including the proposed project.



CHAPTER 2

CONCEPTUALIZATION OF GREEN WAQF

CHAPTER 2 CONCEPTUALIZATION OF GREEN WAQF

2.1 Concept and Contributions

2.1.1 Definition of Waqf

The word waqf has long been widely used, not just by Arabs but also by Muslims from other parts of the world. This has resulted in different transliterations appearing, such as wakf, vakf, vakif, vaqf, wakaf (Islahi, 2003). Waqf is also known with different names in North and West Africa, such as habs (Kahf, 2003).

The word waqf is an Arabic word that literally means to stop, to hold, confinement or prohibition (Kahf, 2003). It is a singular form, in which the plural form is awqaf. In Islamic law literature, waqf denotes holding certain property and preserving it for the exclusive benefit of certain philanthropy and prohibiting any use or disposition of it outside its specific objective (Kahf, 2003). Kahf (Kahf, 2003) further adds that waqf is an endowment of money or property made for benevolent reasons. According to Sharia Standard No. 33, waqf means “making a property invulnerable to any disposition (inalienable) that leads to the transfer of ownership and donating the usufruct of that property to the beneficiaries” (AAOIFI, 2015, p. 814).

In brief, waqf is a donated property used for the benefit specified by the donor, in which the purpose must be benevolent, normally serving community interests (McChesney, 1991). Although current practice requires the undertaking to be in writing, the donor can express their intention to undertake waqf verbally or in writing (waqf deed) (Listiana, 2021; Osman & Agyemang, 2020). Over the last two decades, waqf has become a key focus of attention in the field of socio-economic development.

2.1.2 Characteristics of Waqf

All Islamic jurists (mazhabs) agree that in a waqf, the substance of property is preserved, but the usufruct of benefit is expended for the specific objectives determined by the waqf. However, there is no common ground among jurists on reserved property ownership and usufruct. Perpetuity, irrevocability, and inalienability are three critical criteria that have been used to classify discussions on these topics (Abbasi, 2012).

1. Perpetuity

The perpetuity principle states that once a property is designated as a waqf, its status will not alter until the Day of Judgment. This is to ensure that donors will earn eternal rewards from Allah and that the waqf will continue to benefit the beneficiaries. Except for individuals from the Maliki School, the majority of Islamic scholars support the notion that waqf has a continuous nature. Maliki scholars, however, believe that waqf can be of a temporal nature as long as the founder clearly specifies the time period for which the waqf is founded (AAOIFI, 2015; Obaidullah, 2014).

Kahf (1999) elaborates that the perpetuity of waqf is based on three circumstances. First, the waqf property must be suited to perpetuity, either in terms of its nature, legal position, or accounting practices. By its very nature, land is the only property that lasts forever, but there are some ways to convert other assets into perpetuity assets. For instance, property acquired through equities in common stock perpetual companies can provide legal perpetuity, while accounting treatment can also turn a waqf property into a perpetual trust by using the provision of perpetuity. Second, the waqf founders will determine the waqf property's perpetuity. Here, the waqf founders must indicate their intention to make the waqf eternal in their will or waqf deed, either directly or implicitly. Third, the goal of waqf must be permanent. Here, the waqf founder must explicitly specify the aim of the waqf, and the benefit must flow continually for that purpose. If the original goal is no longer met, the proceeds will be used for other general reasons, such as assisting the poor and needy in society. As a result, the notion of waqf perpetuity permits waqf to give planned economic advantages to support social goals on a long-term basis.

2. Irrevocability

Irrevocability means that after an asset has been declared as a waqf property, the waqf founder's right to it expires (Osman, 2012). The majority of jurists, including Shafi'i, Ahmad ibn Hanbal, and two Abu Hanifa disciples, believe that the creator cannot revoke the wealth, because it has been legitimately transferred to Allah for the public benefit (Abbasi, 2012). Waqf is valid and enforceable at the time of declaration in this circumstance, and there is no need to give possession to the beneficiary (Obaidullah, 2014). On the other hand, Abu Hanifa and Malik believe that the founder retains ownership of the property and can revoke the waqf at any time (Abbasi, 2012).

3. Inalienability

The principle of inalienability states that the waqf property cannot be sold, disposed of, mortgaged, gifted, inherited, attached, or alienated in any way (Mohammad & Mar Iman, 2006). Such a transfer cannot be carried out by the donors, trustees/waqf management, or even their heirs through inheritance. This has to do with the notion of absolute ownership transfer from the waqif to God. The majority of Islamic jurists believe that because a waqf property belongs to God, no one has the authority to dispose of it in any way.

All three principles combined make waqf a great potential charity tool for forming solid not-for-profit organizations that can address a variety of social needs in both Muslim and non-Muslim societies, including (but not limited to) education, healthcare, disaster relief and rehabilitation, and poverty alleviation.

2.1.3 Pillars of Waqf

The involvement of specific entities or factors, such as the donor (waqif), waqf property (mauquf), waqf deed (sighah), and beneficiary (mauquf 'alaih), determines the legality of a waqf (Abbasi, 2012). These characteristics also distinguish waqf from other charitable organizations.

1. Donor/founder (Waqif)

The waqf founder, or waqif in Arabic, is the first element of waqf. The waqif is a person who contributes their property to the waqf with the condition that the property's advantages will go to the indicated beneficiaries (Abbasi, 2012).

Historically, waqf founders have been mostly rich individuals who have donated their land for public use. However, in recent years, more people from various economic backgrounds have been able to contribute to waqf. Also, the practice of cash waqf has encouraged increased public participation. Typically, a cash waqf will be used to purchase revenue-generating fixed assets that will be utilized for specified purposes on a continuous basis. Waqif status is not only confined to individuals and has also been extended to institutions.

2. Waqf properties (mauquf)

Waqf property, also known as mauquf, refers to the assets or funds that have been set aside as a waqf for charitable purposes. Shamsiah (2010) identified five prerequisites for waqf properties after studying the laws and regulations of several countries. These include the waqif's property ownership, the asset encumbrances or covenants, the potential to provide usufruct, whether the property is mobile or immovable, and if the property is halal or haram.

3. Waqf deed (sighah)

Waqf is recognized through a proclamation or waqf deed, or in Arabic, a sighah, made expressly or tacitly by the waqf founder using words (orally or in writing) or gestures in front of a pair of witnesses. The objective of the waqf and the recipients to whom the waqf benefit is to be supplied must be clearly stated in the waqf deed. If the objective of the waqf is incompatible with Shari'ah, the waqf is invalid.

4. Beneficiaries (Mauquf 'alaih)

Beneficiaries, or "mauquf 'alaih" in Arabic, are individuals or entities who receive benefits from the waqf property. When a waqf is established, the founder specifies the aim of the waqf and names the beneficiary who will receive the benefits indefinitely. Waqf beneficiaries have traditionally included members of the public as well as family members. Non-Muslims may also benefit from waqf (AAOIFI, 2015).

2.1.4 Waqf and the Sustainable Development Goals

There is a lot of evidence in the literature for there being a strong link between waqf and development. Indeed, the function of waqf has been critical in the development of society in the past, and it has the potential to be a catalyst in helping resolve the current global issues (Abdullah, 2018; Cizakca, 1998; Listiana et al., 2020; Sadeq, 2002; Saiti et al., 2021; Singer, 2010).

Poverty reduction has historically been one of the main roles of waqf. Additionally, environmental preservation, health care, education, and infrastructure development are among the key beneficiaries of the waqf benefits. Waqf's present relevance would be confirmed if it could be used to respond quickly to the developmental needs articulated in the SDGs.

2.1.5 Waqf for Environmental Preservation

The preservation of the natural environment is an imperative commanded by God, the Lord and Sustainer of all beings. Islam encourages individual Muslim to participate in environmental protection and the wise development of the environment. There are Quranic verses that make the connection between nature and God. The Quranic words of *Ayat* (signs) means both nature and God's words. A true believer according to the Quran should maintain and respect the sacredness of nature, which contains signs of God:

"In the creation of the heavens and the earth, and the difference of night and day, and the ships which run upon the sea with that which is of use to people, and the water which God sends down from the sky, thereby reviving the earth after its death, and dispersing all kinds of beasts therein, and the ordinance of the winds, are signs for people who have sense." (Quran, 2: 164)

The Quran has 759 verses emphasizing the importance of ecology and natural resources (Duh, 2010). These verses from the Quran could be interpreted as an Islamic viewpoint on the environment. The Quran emphasizes the need for Muslims to care for the environment and refrain from harming it in various places:

"There is not a moving creature on earth, or a bird that flies with its wings, but they are communities like you (humans). We have neglected nothing in the Book; then unto their Lord they shall (all) be gathered." (Quran, 6:38)

Muslims are reminded throughout the Quran to regard nature as God's property and a gift from him. Islamic ethics are replete with concepts that safeguard vital environmental elements from destruction and waste, as well as complex measures for environmental conservation and pollution control. *Al-Israf* (wastefulness) is a broader idea in Islam that points to God as the source of nature's diversity and emphasizes the importance of mankind not wasting natural resources. According to the Quran, a sincere believer must promote the preservation of natural resources, such as water, the seas, air, and the climate, on a personal level, and desist from acts that harm the ecosystem:

"O children of Adam! ... eat and drink: but waste not by excess for God loveth not the wasters." (Quran, 7:31)

Furthermore, the notion of *Khilafa* (stewardship) in Islam defines humanity's relationship with the environment. The Quran underlines multiple times that everything on earth and in the heavens is God's property, and humanity's role is to use it wisely.

"It is He who has made you [His] agents inheritors of the earth: He has raised you in ranks some above others: that He may try you in the gifts He has given you: "for your Lord is quick in punishment: yet He is indeed Oft-Forgiving Most Merciful." (Quran, 6: 165)

In the sense that the unity of creation in Islamic sacred writings emphasizes God's oneness and humanity's interdependence with nature, the Islamic idea of Tawheed (unity of creation) is applicable to be employed as a constructive force for solving the key global ecology and climate change issues. Nature, in this view, is sacred and must be protected and revered as part of God's creation. Indeed, nature has significant spiritual significance in Islam:

"To Him belong all things in the heavens and on earth. And enough is God as a Disposer of affairs." (Quran, 4: 171)

In addition, the term "balance" has become prominent in the environmental movement and in the discussions of climate change. A related notion known as Al-Mizan is found in Islamic sacred scriptures and is cited multiple times in the Quran:

"The sun and the moon follow courses (exactly) computed; and the herbs and the trees both (alike) bow in adoration. And the firmament has He raised high, and He has set up the Balance (of Justice); in order that ye may not transgress (due) balance. So establish weight with justice and fall not short in the balance." (Quran 55:5-9)

Some Muslim scholars claim that this verse and other Quranic verses demonstrate that God created everything with proper regard for other creatures and that there must be a balance between what we take and what we give in relation to our environment.

In this regard, waqf as a charitable institution in Islam has potential to be employed as a vital instrument for environmental conservation. Indeed, waqf for environmental protection has been practiced for quite some time. In 1885, for example, Ismail Zuhdu Pasa from Istanbul donated cropland, meadow, woods, forestry, and pasture, with a total area of 5,550,000 square meters (Foundations, 2014). At the same time, the potential of waqf for environmental preservation has been discussed by researchers, such as by Akhtar (1996), who emphasized the substantial role of waqf in serving as the third sector in the past and how this institution could be reactivated so that its land resources could be used for forestation, watershed management, and wildlife conservation.

In addition, Bagader et al. (1994) indicated that waqf could be in the form of a land trust committed in perpetuity to support charitable objectives, like agricultural and range research, wildlife propagation, public cisterns, and gardens, or in the form of a fund to finance such projects. Llewellyn (2003) backed up this view by pointing to the numerous private contributions of land and money as conservation instruments worldwide.

Concerning this issue, Kuwait Awqaf Public Foundation (KAPF, 2002) established an Environmental Fund with the mission to protect and maintain the environment. KAPF developed a project to treat the water in mosques sewers, with the aim to use it for watering the mosques' plants. Moreover, KAPF is also responsible for making their yards green, as well as for building and maintaining mosques.

In Indonesia, support for environmental preservation is evidenced by the release of fatwas (edicts) related to the environment and the conservation movement by the Indonesian Council of Ulama (MUI) (Mangunjaya & Praharawati, 2019). Some fatwas issued by MUI related to the environment are as follows:

1. Fatwa No. 30 October 1983 Regarding Populations, Health, and Development
2. Fatwa No. 2/2010 on Recycling Water for Ablutions
3. Fatwa No. 22/2011 on Environmentally Friendly Mining
4. Fatwa No. 4/2014 on the Protection of Wildlife for Balance of the Ecosystem
5. Fatwa No. 47/2014 on Waste Management
6. Fatwa No. 1/MUNAS-IX/MUI/2015 on the Utilization of Zakat Infaq Shadaqah and Waqf (ZISWAF) for the Construction of Community Water and Sanitation
7. Fatwa No. 30/2016 on the Law on the Burning of Forests and Land

Such environmental and biodiversity conservation edicts are a response to Muslims who want to learn about Islamic ideas on wildlife and nature preservation, as well as the environment (Mangunjaya & Praharawati, 2019). Besides the edicts, various pioneering environmental activities have also been implemented in Indonesia, especially by waqf institutions. The majority of these activities involve tree planting or cultivation, as well as drilling wells and installing clean water systems (Budiman, 2011) and forest conservation (Yaakob et al., 2017; K. M. Ali & Kassim, 2021). Even though they appear to be occasional actions, the programs continue to run today and are receiving increasing support from the public. Interestingly, the tree waqf serves various purposes, including improving air quality and cleanliness, reducing global warming, preventing floods and landslides, and generating significant economic benefits. In addition, Indonesian waqf institutions have also built wells and clean water installations for people who lack a clean and appropriate water supply. As a result, waqf is used for not only environmental protection and recovery, but also poverty alleviation and other communal advantages (Budiman, 2011).

Waqf with its uniqueness and characteristics represents the Islamic teaching legacy that contributes not only to providing human welfare, but also preserving nature. It is very much aligned with the discourse of the SDGs, the green economy, and green finance, and thus can be introduced as a green waqf (Abdullah, 2018; Listiana et al., 2021). Promoting waqf as part of the solution to address current issues is highly relevant, especially for Indonesia as the largest Muslim country globally and as most generous country in the world according to a recent CAF report (CAF, 2019; Listiana & Masyita, 2020).

2.1.6 Waqf For Social Welfare

Waqfs can be broadly classified into two categories: spiritual–religious and philanthropic–socio-economic (Kahf, 2003). A religious waqf is a waqf established for the purpose of subsidizing and facilitating pure spiritually linked activities. This covers mosque construction and maintenance, as well as paying imam wages and making copies of the Qur'an. Philanthropic waqfs are those established to promote the social and economic well-being of designated recipients, including with the supply of basic necessities like food, clothing, shelter, education, and medical care (Lamido & Haneef, 2021).

In another perspective, waqfs can serve the function of alleviating social problems. In practice, many social problems are driven by financial difficulties, such as a lack of funds for marriage, which can lead to baby dumping. In addition, young Muslims can be assisted to secure a more stable financial source of funds for their marriage. Furthermore, waqf money can be used to assist drug recovery institutions that require financial assistance to carry out their programs (Ali et al., 2018).

The role of waqf for community development can be noted throughout history (Abdullah, 2018; Listiana & Alhabshi, 2020; Listiana & Masyita, 2020). Waqf thus can be, and historically has been, utilized to provide a wide range of social services to Muslims and non-Muslims, as well as other living beings. Waqf, for example, can be used to provide additional flexibility for animal protection programs and environmental preservation expenses. Waqf can turn social capital into social and public infrastructure. In the case of a perpetual waqf, it can provide a permanent social safety net for the beneficiaries (Shaikh et al., 2017).



CHAPTER 3

GREEN WAQF FRAMEWORK

CHAPTER 3 GREEN WAQF FRAMEWORK

3.1 Definition

Green Waqf is defined as the utilization of a waqf asset to support the attainment of ecological balance and sustainability, while also providing a social and economic impact for society. Green in this framework refers to the Green Growth Framework, in which expected outcomes related to sustained economic growth and inclusive and equitable growth can help achieve social economic and environmental resilience, enable healthy and productive ecosystems providing services to society, and contribute to a reduction in greenhouse gas emissions (Gol-GGGI, 2014, 2015). The framework also modifies the ROI's Green Bond and Green Sukuk Framework, which consists of nine eligible sectors which range from dark, medium, and light green. Eligible green projects which encourage the switch to a low-emission economy and climate-smart growth include transmission and production of energy from renewable sources, increasing infrastructure's energy efficiency, disaster risk reduction, creating sustainable transportation networks, enhancing waste management, sustainable use of natural resources, building new tourist destinations in accordance with green tourism principles, developing green buildings following the Greenship defined by the Green Building Council of Indonesia ("GBC Indonesia"), and creating sustainable agricultural management and practices (Indonesian Ministry of Finance, 2021).

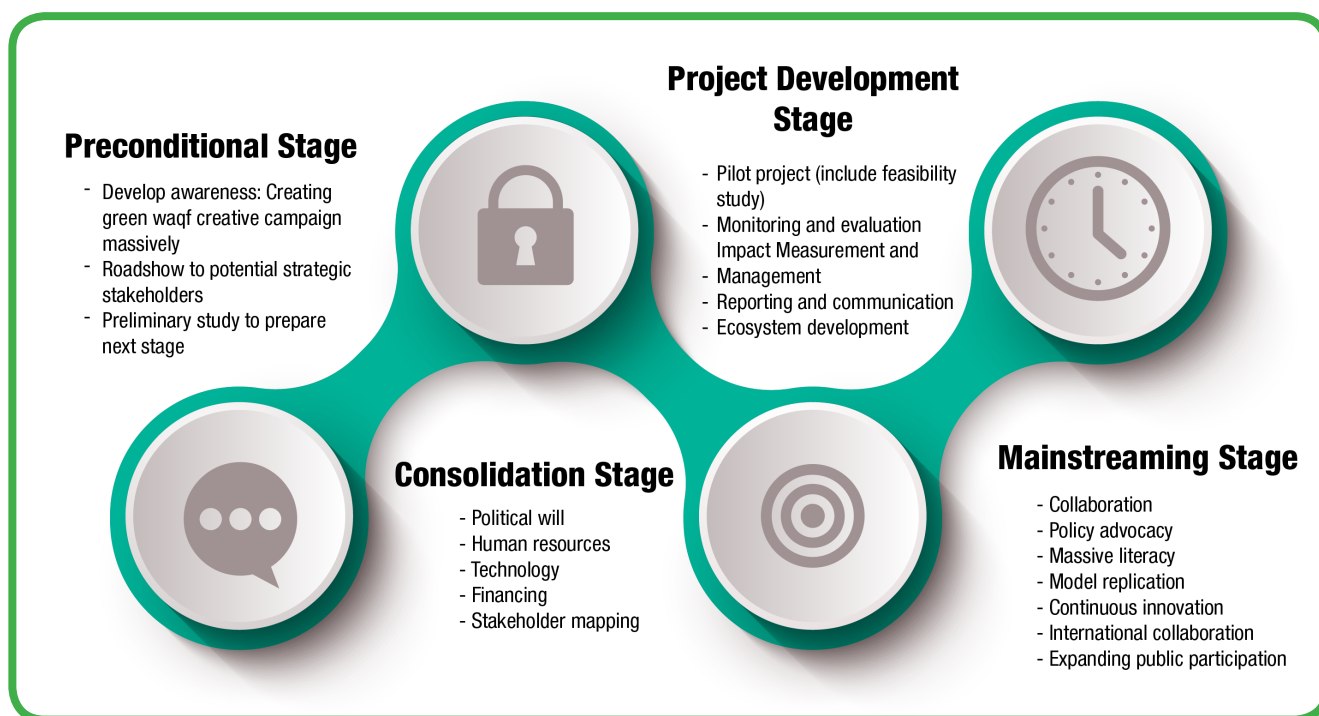
Furthermore, this framework also adapts the categorization of green according to CICERO (2022) and considers the socio-economic dimension for the beneficiaries and the environment in a waqf context, which range from dark to light green. Waqf needs to prioritize the high demand from business for investment alternatives to promote sustainability while achieving social and economic benefits at the same time. Projects under this category include the utilization of a waqf asset for renewable sustainable agriculture. In addition, the waqf asset may be used, for instance, to build efficient infrastructure for a hospital, school, or mosque.

The Green Waqf Framework is a framework that was designed to provide an initiative and implementation framework to support the implementation of Green Waqf programs. This also includes identification of the strategic stakeholders along with their respective roles and how they could ensure the success of the Green Waqf programs. The framework also provides details of the factors that need to be taken into consideration in each stage. This will become guidance for each stakeholder and their participation in the Green Waqf programs.

3.2 Proposed Stages For Green Waqf Initiative

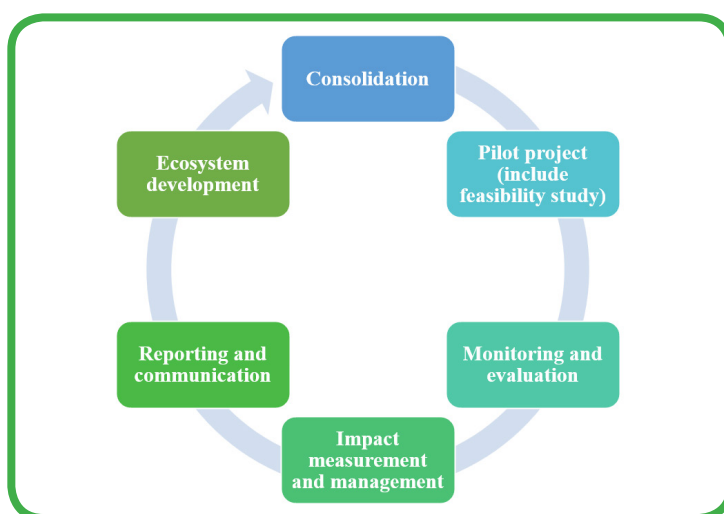
There are four proposed stages for the Green Waqf initiative. As depicted in Figure 3, the four proposed stages are the preconditional stage, consolidation stage, project development stage, and mainstreaming stage. Each stage contains the elements that must be considered in order to ensure that all of the stages can be successfully implemented.

Figure 3. Proposed Stages For Green Waqf Initiative



While the stages set out a step-by-step process for the proposed initiative, the implementation may vary among countries, especially considering the level of awareness of the local society about waqf and ensuring the involvement of the relevant stakeholders in the waqf sector. This suggests that the preconditional stage and mainstreaming stage are optional. The required pillars of the proposed implementation framework thus refer to the consolidation and project development stages, as appear in Figure 4.

Figure 4. Proposed Green Waqf Implementation Framework



3.2.1 Stage 1: Preconditional Stage

1. Awareness raising, including through creating a massive media campaign

The awareness of the Muslim community in Indonesia to religious donations continues to grow. Based on data from the CAF World Giving Index (2021), Indonesia is one of the most generous countries in the world. This index considers three dimensions, namely the giving of large amounts of donations, volunteerism related to disasters and social activities, and helping people even though they are not known to the helper.

In early 2020, the Indonesian Waqf Board (Badan Wakaf Indonesia / BWI) conducted a survey on national waqf literacy, which was carried out between February and April 2020. This survey was conducted to evaluate the level of understanding of the Indonesian people about waqf and at the same time to measure the performance of waqf socialization in several regions. The survey results showed that the level of public awareness of waqf in Indonesia was 50.4 percent, which means that the knowledge of waqf is still relatively low (Sukmana et al., 2021).

This shows that there is a huge gap between the potential of waqf and realization of this potential in Indonesia. The monetary potential of waqf, including cash and land waqf, is around IDR 2,000 trillion per year. Despite this, currently there are only 52,000 hectares of land involved, located at 390,000 locations. One of the problems currently facing the world of waqf is the low level of awareness about waqf, yet awareness is an important initial stage and should not be omitted in a rush to continue to the next stage in the process, and then picked up again when the point is reached of a new product needing to be adopted (Nisa & Purbasari, 2020).

According to Indonesia's Islamic Economic Masterplan 2019–2024 (Indonesian Ministry of National Development Planning, 2019), many people are still trapped in the old terminology of waqf, where waqf in general is in the form of resistance or its use is limited to the social sphere, such as burial grounds or worship, such as mosque construction. In fact, Çizakça (2014) suggested that Islamic finance should innovate to better face the modern dynamic and rapidly developing world to avoid the financial system becoming outdated and stagnant. Therefore, in the process of developing a Green Waqf, which is also a new innovation in the field of waqf, it is important to design a public-awareness program to educate society on the importance and benefits of waqf.

Such a program should place a strong emphasis on the waqf's key concept, features, and benefits (Fatah et al., 2017). It is vital to define the target audiences to be reached when planning an effective public-awareness program. Moreover, the timing of the awareness program is critical to increase the chances of participation. For example, during the months of Ramadan and Shawal, most Muslims are extra generous. These are special days for contemplation, sharing, and forgiveness. Appreciating Allah's favors and the rewards in store for them may lead to a decision to donate their riches to the waqf.

Figure 5. Green Waqf Awareness Program



Source: Modified from Fatah et al. (2017)

There are also a variety of methods that can be used to raise public awareness. For instance, on-site waqf officers can provide direct assistance to donors in particular places where they are often uneducated about such matters. Other methods, like websites, can be helpful too in locations where education and technology are not an impediment. The failures of waqf institutions can have potentially disruptive implications, which could be mitigated by having a well-designed public-awareness program in place. The public should be assured that the waqf properties are being used for the purposes for which they were created, and awareness initiatives could have an impact on maintaining donors' trust in this regard.

Some aspects that could be included in such a public-awareness program include the following:

Public lectures and exhibitions

Waqf officers in their respective districts could provide lectures and organize exhibitions for a variety of target groups. These could be done in collaboration with professional organizations and groups. Consumer organizations, civic associations, entrepreneurs, financial journalists, and trade associations are just a few examples of potential audiences. Because of their networks, the members of these groups can assist in spreading information to a wider audience. Other annual religious events and celebrations could be held in conjunction with the public lectures and display.

Toll-free line and websites

Toll-free telephone lines could be established by the government and waqf agencies to provide convenient access and communication channels with the option for community donations. Many waqf organizations currently have websites that provide basic information about the waqf system in their area. The information and personal services supplied through toll-free lines could be supplemented by a well-designed website. This would also be useful for publishing other types of information, such as job openings and community activities. Websites would allow the public to provide immediate input on operational difficulties or to even make complaints about a specific activity if they feel the need to.

Educational forums and seminars

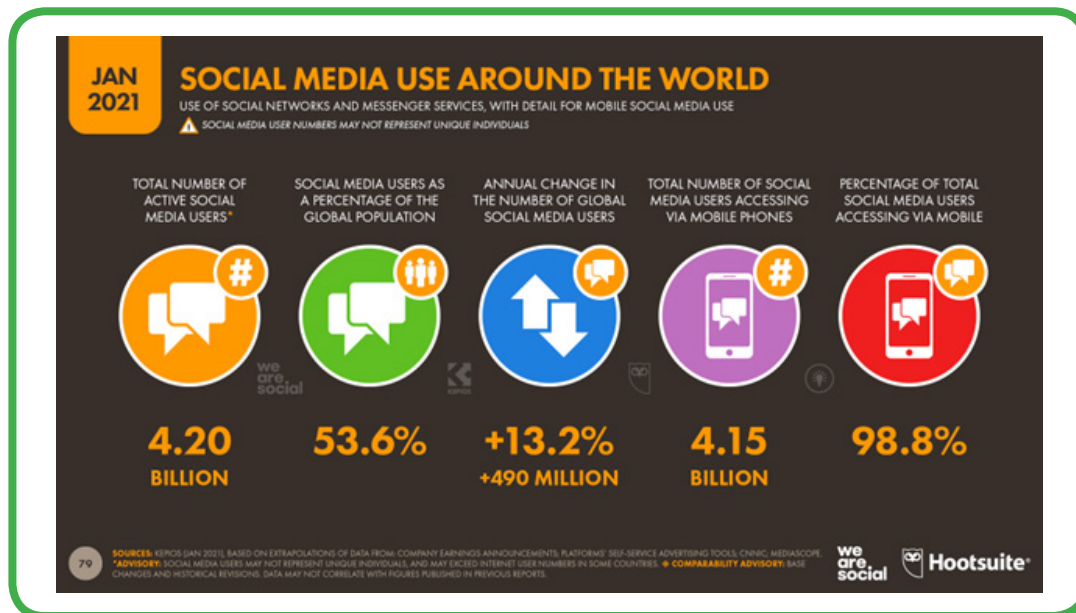
Forums and seminars could be organized on a regular basis at academic institutions to reach potential donors at an early age. These seminars could be designed to disseminate basic knowledge of waqf properties, benefits, and procedural matters to students. State waqf agencies could organize seminars as a fundamental part of their public-awareness program. For example, the seminars may focus on the current issues and initiatives put in place by relevant entities to protect waqf properties and institutions. Some concerns could include how to improve the legislative framework, outlining the duties and functions of several state and federal regulatory authorities, and the establishment of an explicit waqf program. Waqf agencies should also think about holding frequent briefings for government officials and policymakers, as well as maintaining an open and ongoing dialogue with all parties.

Figure 6. Public Awareness Methods



Furthermore, according to data from We Are Social (2021), the number of individuals using social media has increased by more than 13% in the last year, with about half a billion new users joining in the first quarter of 2021, bringing the global total to nearly 4.2 billion. More than 1.3 million new users joined social media per day on average in 2020, equating to about 1512 new users every second.

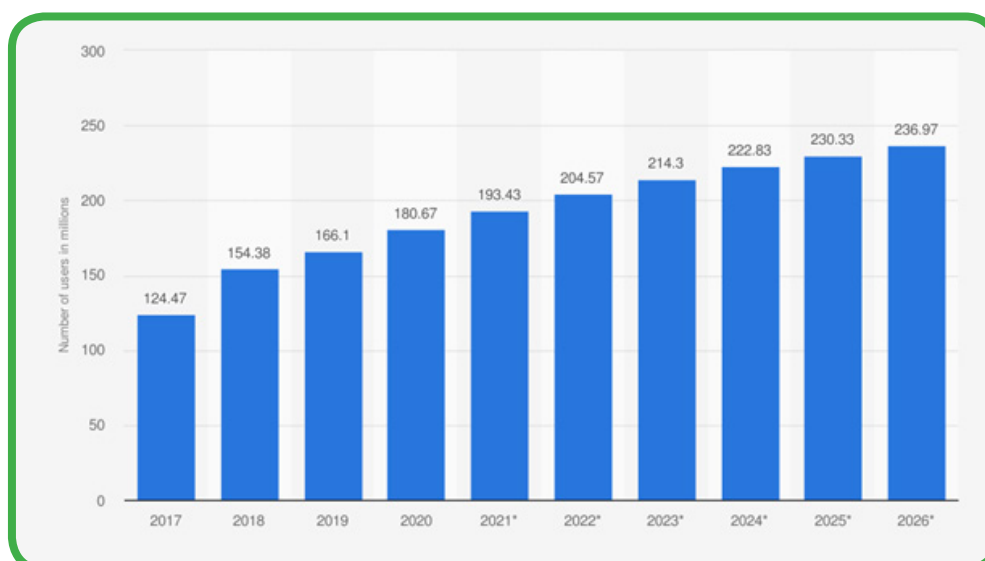
Figure 7. Social Media Use Around the World



Source: We Are Social (2021)

Meanwhile, the number of active social media users in Indonesia reached 193 million accounts in January 2022. This number represents an increase by 6.25% compared to the previous year. This increase in the number of active social media users in Indonesia is in line with the higher Internet penetration in the country, with 53.73% of Indonesia's population having access to the Internet last year (Statista, 2022).

Figure 8. Number of Social Media Users in Indonesia from 2017 to 2020 with Forecasts until 2026 (in millions)



Source: Statista (2022)

This rise in Internet access and social media participation can be an opportunity to run a massive campaign to promote the Green Waqf through social media. Social media could also be optimized to improve the electronic word-of-mouth spread of the key messages. Moreover, social media optimization is important to provide users with information regarding Green Waqf, especially for the millennial generation, as it is known that the millennial generation is a generation that is very close to the Internet and keen on social media. Besides, using influencers could help shift donation styles to a smarter and more sustainable way to attract the Internet-savvy generation.

Subsequently, some indicators of the success of the awareness program might be measured during the development of the program. Some proposed indicators include regular contributions and engagement by the target audiences, mentions in the media, and the use of the phrase “Green Waqf” in public speeches, and these could be used to track the program’s effectiveness.

2. Roadshows to inform and attract potential strategic stakeholders

Running a series of roadshows for potential stakeholders is a fundamentally important part of promoting the green waqf program. Roadshows will be delivered as a series of informative meetings or events that take place in key stakeholder locations in order to reach a wide range of current and potential stakeholders. Besides, the roadshows will aim to stimulate interest in the development of the green waqf ecosystem in society via a series of short events designed to reach out to local stakeholders to achieve the following immediate aims, to:

- a. increase local awareness of and commitment to support the Green Waqf development,
- b. increase local institutional capacity to provide support services for Green Waqf developers,
- c. promote a better understanding by potential financiers of the green waqf development, including the economic benefits,
- d. provide relevant guidance and firsthand experience to the green waqf developers, and decision-makers.

3. Preliminary study

The initial stage in developing the Green Waqf is to carry out a preliminary study. Preliminary studies are frequently undertaken to refine an intervention’s acceptability, feasibility, cost, and uptake, as well as to generate up-to-date local data to determine or confirm the sample size needed for the trial project (Black, 2017). In this research, the aim of the preliminary study will be to:

- a. identify potential Green Waqf projects that might be implemented in the local context,
- b. identify the population groups to invite to participate in the project,
- c. estimate the optimal duration of the project,
- d. explore the likely community acceptance of the projects, staff training needs, and other logistic requirements related to the development of projects,
- e. estimate the costs of each of the activities needed for the projects.

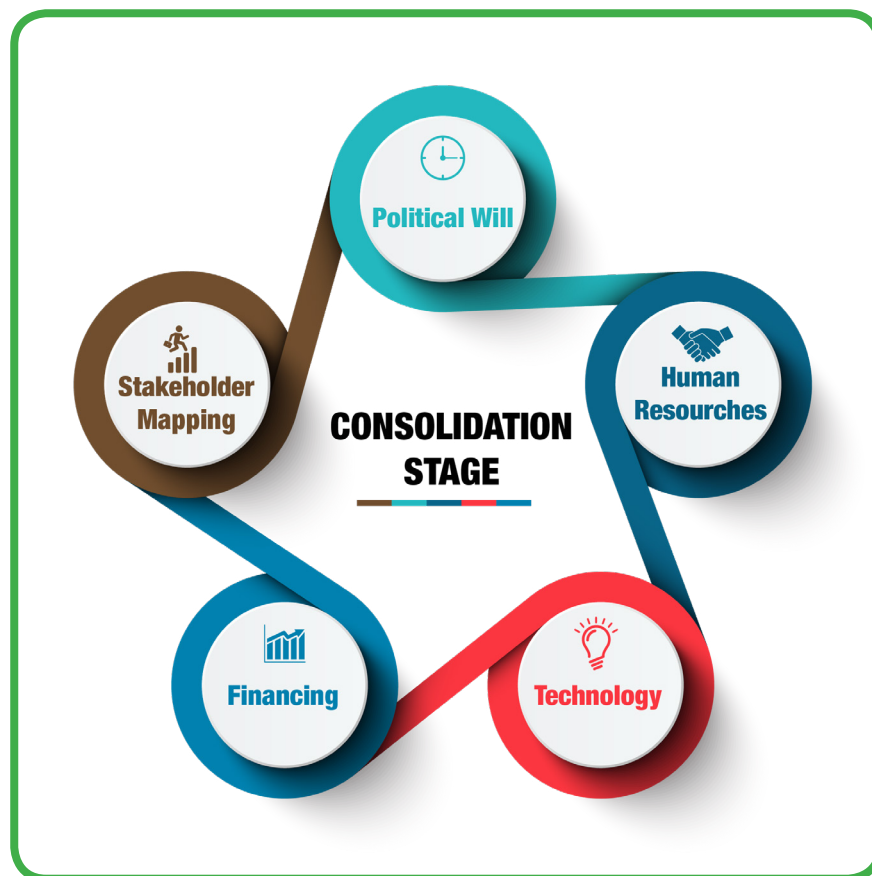
Furthermore, this stage is also helpful for preparing a conceptual framework to be used as a reference for carrying out the next stage of the project.

3.2.2 Stage 2 : Consolidation Stage

The consolidation stage is the stage in the Green Waqf Framework in which the stakeholders in the green economy and green finance will start to collaborate with one another to achieve Indonesia's vision set out in its Long-Term Strategy on Low Carbon and Climate Resilient Development 2050 (LTS-LCCR 2050). This stage will involve all those stakeholders that have a certain role to play in the development of the Green Waqf in order to take advantage of potential synergies among institutions. At this stage, we will try to connect and coordinate between several institutions to ensure the necessary joint decisions and plans can be made with a long-term perspective to implement Green Waqf projects in the future. In the consolidation stage, the political will, human resources, technology, stakeholder mapping, and financing aspects should all be properly organized to support the future activity. The key activities in each of these elements are listed below and then described in more detail in the following text.

- Political will
 - Embrace a common vision
 - Make substantial changes to relevant programs and policies
 - Prioritize dialogue across government ministries and institutions
- Human resources
 - Increase human resource quality through enhanced education and training
 - Conduct training and capacity building and skills upgrade to support implementation at the national and sub-national level
- Technology
 - Source or develop advanced technology
 - Adopt new technology
- Stakeholder mapping
 - Identify the relevant stakeholders in Islamic finance and the green sector
 - Identify the key roles played by these relevant stakeholders
- Financing
 - Look for alternative financing
 - Synergize the policy in the financing schemes

Figure 9. Consolidation Stage



1. Political will toward green policies

The green economy is a global concern that needs to be addressed by all elements of society. The government as the main stakeholder has a great responsibility to contribute. Therefore, governmental concern to find effective solutions is very much needed regardless of political ideology (Guild, 2020). Political ideology in some cases in several countries is still an obstacle to realizing green policies (Moravec, 2021).

The commitment of the Indonesian government to the issue of climate change adaptation, carbon reduction, and renewable energy can be seen from the mandates in the Indonesia Vision 2045 report and the Indonesia National Mid-Term Development Plan (RPJMN) 2020–2024, which explore how to embrace a path to net-zero emissions by the mid-century and how this could accelerate growth, boost employment, and make Indonesia's economy more robust, resilient, inclusive, and sustainable (Gol-GGGI, 2014, 2015).

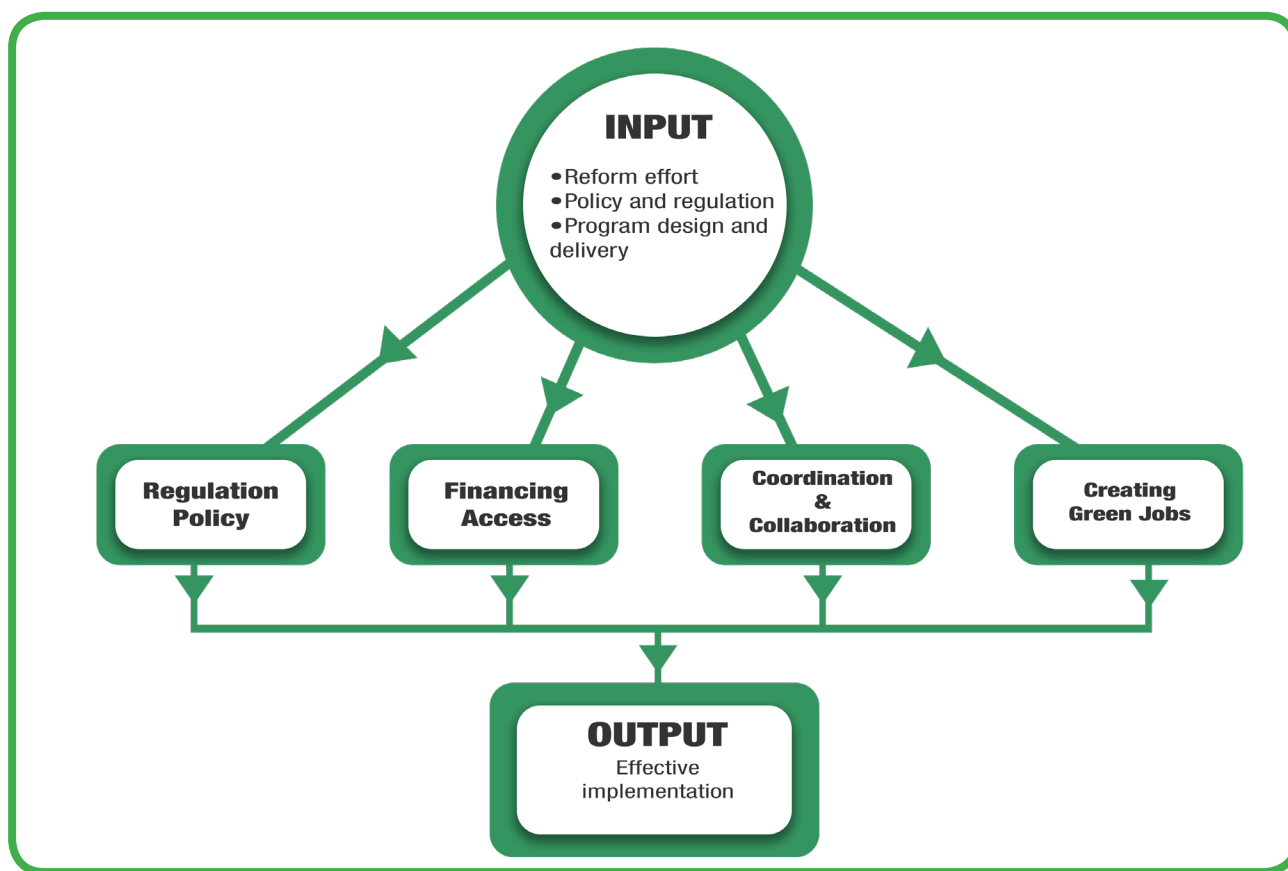
This second stage will focus more on translating policies for programs that will be carried out by related stakeholders, ministries, and institutions. Before the project development stage, it is necessary to consolidate and coordinate several joint policies and programs between institutions. The unification of perceptions and attitudes needed to achieve Indonesia's goal of zero-emission following the president's order must align among several institutions and communities as well. The relevant stakeholders should have a common perspective to envisage the Green Waqf project as part of the efforts toward achieving the long-term climate vision.

In cases of dynamizing programs and policies on the Green Waqf project, relevant ministries and institutions, such as the Indonesian Waqf Board (Badan Wakaf Indonesia / BWI), the Ministry of Religious Affairs (MORA), the Ministry of Environment and Forestry (MOEF), and the Ministry of Agrarian Affairs and Spatial Planning should be convoked to seek a joint policy that can synergistically allow waqf and waqf land to be applied to the Green Waqf project. Thereafter, BWI should coordinate with other ministries, such as MORA, the Ministry of Finance (MOF), the National Committee for Islamic Economy, and Finance (KNEKS), Financial Services Authority (OJK), Ministry of Environment and Forestry (MOEF), the Ministry of State-Owned Enterprises, and other related ministries and institutions as a step toward socializing and coordinating the necessary actions to run the Green Waqf project. Coordination with the MOF may be achieved by coordinating the issuance of a green sukuk, cash-waqf-linked sukuk (CWLS), or sukuk-linked waqf (SLW) as a source of financing for the proposed project.

Developing a Green Waqf requires adequate regulations. These regulations need to be developed at both the national and sub-national levels. Therefore, consolidation, coordination, and massive communication must be carried out by MORA and BWI with other ministries, such as the Ministry of Law and Human Rights, Ministry of National Development Planning (BAPPENAS), KNEKS, OJK, and other agencies, to include Green Waqf in their national development plans. Thus, a synergy between institutions could make this project sustainable and help achieve the targets set out by the government as part of its zero-emissions goals.

In the context of developing products with economic value derived from Green Waqf projects, coordination with several ministries and institutions, such as the Ministry of Energy and Mineral Resources (MOEMR), the National Research and Innovation Agency (BRIN), the Ministry of Cooperatives and SMEs, and the Chamber of Commerce and Industry (KADIN), must be considered as part of the work plan. Creating a clear picture of the range of problems that are occurring in the environment needs the support of agencies that can provide reliable and actual data. Therefore, the support and coordination of BPS Statistic Indonesia and Geospatial Information Agency (Badan Informasi Geospasial/BIG) could be vital and these institutions could be a bridge for providing accurate data related to conditions that occur in the field; for example, supporting how to identify and categorize the available and suitable waqf land or critical land for the proposed green project. This would support implementation of the Green Waqf project plan and provide a basis for measuring progress.

Figure 10. Input-Output of Consolidation Stage



2. Human resources needed to deliver the Green Waqf initiative

Human resources on green projects in Indonesia remain a key issue. Guild (2020) mentioned that the first constraint to developing green finance in Indonesia is the low levels of human capital and the lack of experience with novel financial instruments, like green bonds. This illustrates that the development of human resource capacity for green projects in Indonesia is important and requires early and mature preparation.

In the case of the Green Waqf, it is necessary to strengthen human resources that can support the implementation of the Green Waqf initiative. To bring it to fruition, three undertakings need to be strengthened for the development of human resources in preparation for the implementation of Green Waqf. The first is institutional strengthening. This requires improving human resources-related institutions and optimizing institutional functions for the integration of long-term institutional knowledge and skills with the aims of strengthening organizational commitment and capacities to drive green economy policy development and legitimacy with the political and economic processes that underpin state–society relations. This will only work when the state can plan, prioritize, mobilize, and account for its financial and human resources and deliver goods and services for the public good. High political commitment, enhanced coordination, and synergy among the line Ministries and institutions should be well developed to achieve the target of LTS-LCCR implementation in 2050.

The second is human resource development. Training and education are needed in the development of capacity-building initiatives to address immediate green economy gaps, needs, and policy priorities. Green training and development in organizations have become more important as every employee is a social person who will learn different concepts from his personal and work life that can promote differences in employee behaviors to ultimately benefit greater protecting nature and the environment for our future generations (Veluchamy et al., 2021). By encouraging women participation in training and education initiatives, there is also potential to achieve better gender parity in future projects.

The Education and Training Institute (Lembaga Pendidikan dan Pelatihan/Lemdiklat) of BWI, MORA, MOEF, and other ministries and institutions can collaborate in conducting training for the Green Waqf actors (primary and secondary stakeholders). Lemdiklat BWI has already conducted training and certification to improve the competency of nazir (waqf manager) (BWI, 2022). The certification of nazir in the future that will be conducted by BWI through its Certification Agency (LSP IWB) should include materials related to Green Waqf as part of the assessment of nazir competencies. BWI and other ministries should collaborate in educating and giving training to all involved stakeholders regarding the scope and definition, and regulatory and technical standards associated with the Green Waqf development to share accurate, clear, and easy-to-understand information that addresses the common questions regarding Green Waqf development.

The third is platform building, including conducting policy dialogue, resource sharing between institutions, and the development of relevant handbooks and others. In this case, BWI, MORA, KNEKS, the Ministry of Education, and other related institutions should work together to improve human resources between institutions and to optimize the functions of institutions for developing the Green Waqf. The institutions also need to develop a handbook or material for Green Waqf. At the level of educational institutions, both schools and universities can include Green Waqf subjects in their curriculum.

Figure 11. Coverage of The Capacity Building

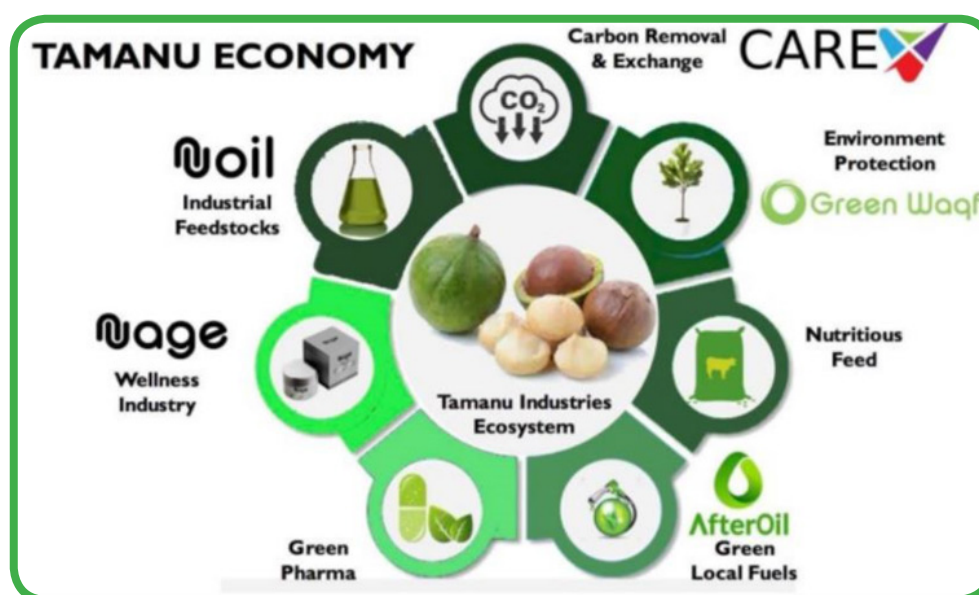


3. Technology

The availability of adequate technology is one thing that needs to be prepared during the consolidation stage of the Green Waqf development. While there are many innovative technologies on the market that have the potential to contribute to sustainable development (Guo et al., 2020), we will need to determine those that qualify and can benefit from Green Waqf. Some innovations will need to be adapted to make them more useful in the green waqf context (Hultman et al., 2012). There will also likely still be some innovation that will still need to be developed as needed.

The tamanu plantations represent a Green Waqf Framework pilot project that requires adapting technology for more effective project development. This technology should help facilitate the progress of this pilot project. Although Tamanu is a plant that is easy to grow on mediocre land, if there is agricultural technology that could facilitate the planting process, it would be very helpful for accelerating the process and improving the efficiency, in terms of the time and energy. Technology for the Green Waqf pilot project will be especially needed at the handling and manufacturing stages. In these stages, the derivatives from tamanu will be used to develop various green products, such as biofuel and wellness products. Advanced technology is needed for the development of this product. In addition, technology is also needed for the development of tamanu derivatives into other products, such as medicines and nutritious feeds.

Figure 12. Tamanu Industries Ecosystem



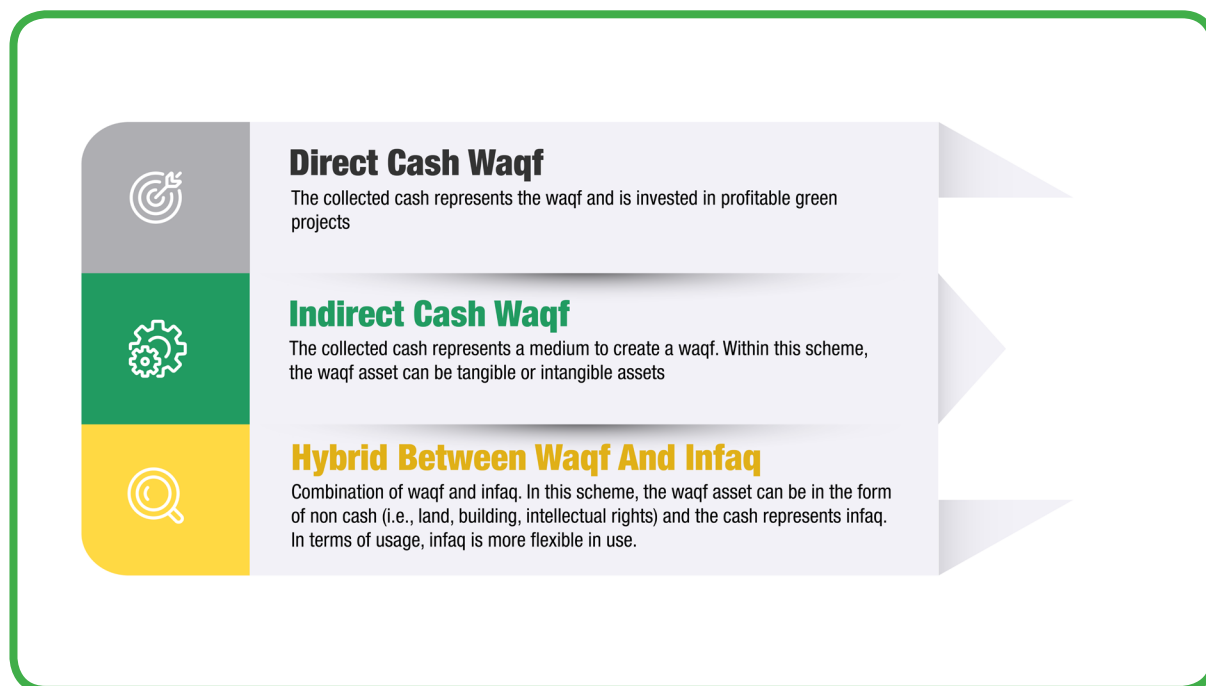
Source: Iqbal (2022)

4. Financial Aspect

Financing is an obstacle that is often faced in efforts to realize green sustainability. However, Indonesia has committed itself to achieving net-zero emissions, which will require investment for green projects and also the need to find new sources of financing. As an instrument, Green Waqf can be implemented through three different schemes. The first scheme is direct waqf. In this scheme, the collected cash represents the waqf and is invested in profitable green projects. The second scheme is indirect cash waqf. Here, the collected cash represents a medium to

create a waqf. Within this scheme, the waqf asset can be a tangible or intangible asset. The third scheme is a hybrid mechanism combining waqf and other Islamic social funds, such as infaq. Since the waqf assets need to be sustained, there is a requirement to involve a guarantee/ takaful mechanism.

Figure 13. Financing Scheme of Green Waqf



3.2.3 Stage 3: Project Development Stage

This stage consists of five related processes to facilitate the implementation of the Green Waqf initiative from concept to action. It starts with choosing a suitable pilot project to realize the potential and showcase the contribution of the green waqf. The pilot project needs to be monitored and evaluated periodically to enable ongoing improvement. To measure the impact of the projects, relevant impact measurement and management are required. The measurement can be conducted periodically and needs to be reported and communicated with relevant stakeholders. This stage ends with the ecosystem development of the Green Waqf. The main stages are outline in Figure 14 below and then described in more detail in the following text.

Figure 14. Project Development Stage



1. Pilot Project

Pilot projects are a good way to demonstrate the potential of Green Waqf for addressing the identified strategic issues in an efficient manner. In prior executing a pilot project, a proper feasibility study is needed. This should evaluate the feasibility of the project, including the business strategy, and performing market feasibility research, a technical feasibility study, location and site selection study, social and environmental feasibility study, and economic feasibility study (ElQuliti & Elalem, 2018). The market study should cover the necessary information about supply and demand, as well as thorough information on the competition. The technical study should include information on the required machinery, production capacity, raw materials and inputs, computer system(s), and human resource strategies. The impact on society and the environment should also be examined in this study. The economic feasibility assessment should assess all of the project's economic performance metrics and highlight the financial resources required to channel and manage the project.

The pilot project could be developed with only consideration of the local context, which would require a lower level of available resources and opportunities. Through pilot projects, Indonesia can gain important experience and learn lessons to make better decisions about replication and scaling-up in other parts of the country.

2. Monitoring and Evaluation

Monitoring and evaluation of the pilot project are required to enable the development of a proper ecosystem. This process needs to be properly planned and coordinated by a designated coordinator in collaboration with relevant stakeholders, including the executing entities, accredited entities, and universities or research institutions. Higher education programs should be leveraged for Green Waqf, such as Merdeka Belajar – Kampus Merdeka Policy in Higher Education Institutions, which enables college students to have six-month interns in respective institutions, or community service mandated as one of the pillars of higher education in Indonesia. Monitoring and evaluation can be managed as a collaborative program between the executing entities and relevant independent parties.

3. Impact Measurement and Management

Impact measurement and management are necessary to measure the effectiveness of the Green Waqf projects. Since the projects aim to promote sustainability through the economy, ecology, and social dimensions, relevant and suitable studies can be chosen considering the nature of the projects. These may employ a quantitative approach or qualitative approach, or even a combination of both.

4. Reporting and Communications

Periodically reporting the progress of the green waqf projects is required. Reports should cover elaboration of the inputs, process (program), outputs, and impacts/outcomes, and could be issued both: 1) individually per project by each coordinator; and 2) collectively and annually by the relevant authorities in the respective area. Reporting the outputs and outcomes of projects is important to showcase the real benefits and impacts while also promoting transparency and accountability. To this end, proper communication with relevant stakeholders is necessary. The report should also be available for public access. In addition, public exposure about the projects can be conducted in parallel with the usage of media social, possibly with the support of influencers to reach higher audiences.

5. Ecosystem Development

In order to optimize the benefits of Green Waqf, a proper ecosystem is required. The ecosystem development can be started soon after the implementation of the pilot project along with the monitoring and evaluation. From the preconditional stage, especially the preliminary study, consolidation stage, and project development stage, relevant stakeholders can be identified and their roles and responsibilities analyzed and mapped. To build a proper and practical ecosystem, collaboration among the relevant authorities, industry players, and researchers and academicians is pivotal. Stakeholder mapping seeks to identify and describe the interests and relationships of all the stakeholders in each investment plan.

The key to successfully mapping the stakeholders is to take a holistic approach. In this sense, mapping can be understood not simply as a process of identifying the individuals and groups that will be impacted by or those who may have an influence over the investment plan outcomes, but also understanding the intricate relationships between them, the interests they represent, and possibly the agendas they are beholden to, as well as recognizing their varying degrees of importance to the investment plan, their individual capacity levels and means to engage,

as well as their preferred channels and networks of communication. Only from such a comprehensive analysis will it be possible to fully understand the stakeholder base and develop an effective engagement strategy (World Bank, 2018). To ensure the effective participation and contribution of each stakeholder in the project, it is necessary to identify their roles and responsibilities distributed among the project partners.

Among the relevant stakeholders within this stage are:

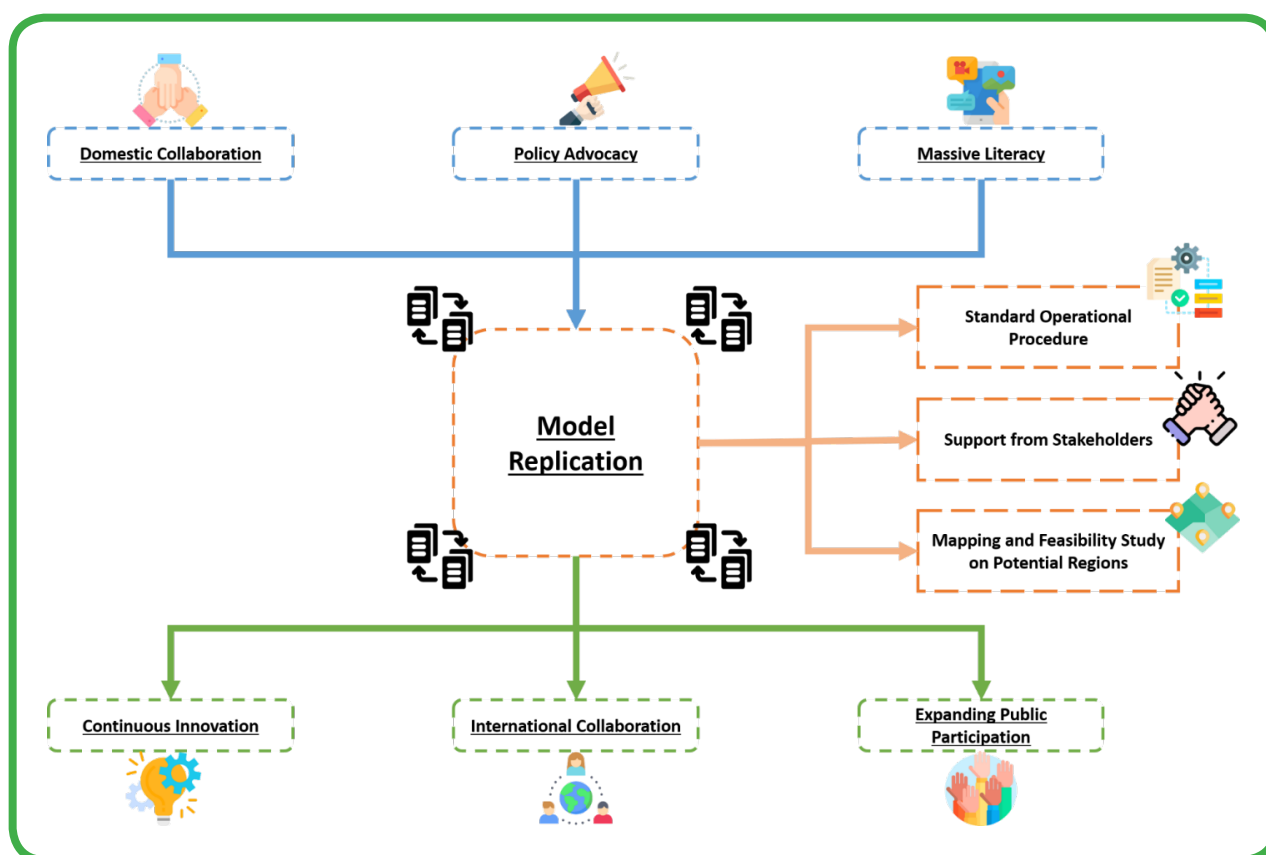
1. Stakeholders that are already involved in the pilot project(s)
2. Waqf Investment Guarantee Agency
3. Takaful (Islamic Insurance) entities
4. Multilateral agencies
5. NGOs
6. Nazir certification and education agencies

3.2.4 Stage 4: Mainstreaming Stage

In order for the Green Waqf Framework to be a mainstreamed part of the waqf movement, especially on renewable energy, once the pilot project has been conducted and its impact measurement and management assessed, the model replication in other places is necessary to enlarge the scope of its impact. However, there are some steps to be taken before proceeding to model replication, including:

1. **Domestic Collaboration**, which means enlarging the scope of collaboration to not only those stakeholders that are already part of the pilot project, but also to include other stakeholders, whether public, private, or NGOs, which were not part of the pilot project, but who have a similar vision, goal, or programs that can be aligned with the Green Waqf Framework.
2. **Policy Advocacy**, which means promoting policies and regulations that enable replication of the Green Waqf Framework business model as well as providing incentive(s) for any stakeholders involved. The incentives may be in form of fiscal (such as a tax cut or subsidy), monetary (such as support for bank financing for the sector/program), or structural reform (such as ease of registry) incentives.
3. **Massive Literacy**, which means promoting and campaigning to raise awareness of the Green Waqf Framework as well as showcasing successful pilot projects. The campaign could take place during the holy month of Ramadan when awareness and eagerness to donate among Muslim society are higher compared to other months, or during sharia economy-related events, such as the Indonesia Sharia Economic Festival (ISEF) by Bank Indonesia, OJK's iB Vaganza, and other related events. The campaign could take place within online or offline settings.

Figure 15. Mainstreaming Stage



After pursuing the above steps, model replication may be conducted, but it should follow certain steps, including the following:

1. **Availability of an SOPs (Standard Operational Procedures).** Upon completion of the pilot project, the monitoring and evaluation should highlight certain SOPs that should be informed to any entities that would like to replicate the business model. Such SOPs must consider not only the steps taken to conduct the project, but also the steps to prevent any critical factors that may hinder the progress of the project.
2. **Support from each stakeholder involved,** whether in form of monetary, technical, or market access support.
3. **Mapping and feasibility study of potential region of model replication,** which would be better conducted as part of the monitoring and evaluation to justify further model replication.

Once model replication has been conducted, it may be considered as a successful milestone of the project. However, in order to ensure further development of the Green Waqf framework, especially toward the international stage, there are some steps that need to be taken as well:

1. **Continuous Innovation,** by enhancing research and development by universities, government agencies (such as BRIN), and private institutions for better technology and development of new product that can be used to support the project. In the case of tamanu plantation, research may be focused on new form of utilization of its parts that may be used to support livelihood of community or better machineries in production.

2. **International Collaboration**, through cooperation with other countries that have similar concerns over waqf utilization for environmental conservation and/or energy security. For example, cooperation for exporting tamanu plants to support green programs in the desert regions of the Middle East/North Africa (MENA).
3. **Expanding Public Participation**, through open discussion with the public regarding finding ways for improving green waqf projects or competition by inviting startups to find solutions for improving green waqf programs to solve issues in society.



CHAPTER 4

BUSINESS MODEL

CHAPTER 4 BUSINESS MODEL

4.1 Stakeholder Mapping and Analysis

The first step in the process of stakeholder engagement in the Green Waqf project is to perform stakeholder mapping. In this stage, determining the specific people or groups who have a stake or an interest in the outcome of the project is done by analyzing every step involved and who is involved and what roles they play. The initial focus group discussion (FGD) revealed the institutions that could be directly or indirectly related and/or affected by the green waqf project. The stakeholder determination process revealed the range of Islamic-finance-related stakeholders and green-related stakeholders.

Islamic-finance-related stakeholders are those who have an interest in promoting, developing, and offering financial services to the Islamic finance sector by applying sharia principles in all activities. Islamic finance stakeholders consist of individuals and groups, including regulators, policymakers, investors, and other related individuals and groups. In the context of Green Waqf, there are several stakeholders who fall in this category, such as the Indonesian Waqf Board (BWI), MORA, Department of Islamic Economy and Finance of Bank Indonesia (DEKS-BI), Islamic finance institutions, waqif (donors), nazir (waqf managers), takaful, and pesantren and Islamic organizations (ormas Islam), and research centers. Meanwhile, green-related stakeholders are those who have an interest in the green sector and sustainable development. Stakeholders that are related to the green sectors include individuals, activists, NGOs, corporations, and government institutions. Table 1 lists the key stakeholders.

Table 1. Stakeholders in Green Waqf Project

Institutions	Islamic Finance-related Stakeholder	Green-related Stakeholder
Government	<ul style="list-style-type: none"> Indonesian Waqf Board (Badan Wakaf Indonesia/BWI) Ministry of Religious Affairs (MORA) DEKS Bank Indonesia (DEKS-BI) Islamic Finance Institutions 	<ul style="list-style-type: none"> Ministry of Environment and Forestry (MOEF) Ministry of Energy and Mineral Resources (MOEMR) Ministry of Finance (MOF) Financial Services Authority (OJK) Ministry of Agriculture (MOA) BAPPENAS
Private	<ul style="list-style-type: none"> Waqif (Donor) Nazir (Waqf Manager) Islamic Finance Institutions Takaful 	<ul style="list-style-type: none"> Wellness and Halal Industry
Community	<ul style="list-style-type: none"> Pesantren and Islamic Organisations (known as Ormas Islam) Professional Association (IAEI, MES, etc) 	<ul style="list-style-type: none"> Greenpeace International and other relevant NGOs (NGO) Chamber of Commerce (KADIN) and Industry Association

Academia	<ul style="list-style-type: none"> Universities/Research Centers (including BRIN) 	
Development Partners	<ul style="list-style-type: none"> National Islamic Economy and Finance Committee (KNEKS) 	<ul style="list-style-type: none"> Ministry of Industry (MOI) and Ministry of Trade (MOT) Ministry of Cooperatives and SMEs (MOCSMEs) UNDP

Islamic Finance-related Stakeholders

1. Indonesian Waqf Board (*Badan Wakaf Indonesia/BWI*)

BWI is a government institution that has the authority to manage the waqf sector in the country. This includes coordinating and supervising nazir institutions. In this case, BWI can revitalize the national waqf land database and identify waqf land that can be used for Green Waqf projects, and may assign certain nazir that are qualified to conduct Green Waqf projects. Digital campaigns could be executed by the BWI through the waqf platform to promote Green Waqf financing.

2. Ministry of Religious Affairs (*MORA*)

The Ministry of Religious Affairs is the government agency that is responsible for religion-related matters. It is also responsible for providing accurate waqf land data. Permission approval and revocation of the Islamic Financial Institutions Receiving Cash Waqf (LKS PWU) is another authority of this ministry. The MORA also includes the Halal Product Assurance Executing Agency (BPJPH), which is responsible for ensuring the halalness of a product, including those that are produced by Green Waqf projects.

3. Departemen Ekonomi dan Keuangan Syariah Bank Indonesia (*DEKS-BI*)

The DEKS of Bank Indonesia already carries out a role in encouraging and continuing to develop the Islamic economy and finance in Indonesia, and it could have a positive impact on strengthening monetary stability, financial system stability, and public welfare by encouraging people to support waqf and to be involved in Green Waqf projects.

4. Islamic Financial Institutions

Islamic banks can play a role to generate fundraising for the Green Waqf program by offering it as an option to their customers. They can also provide financial transaction facilities that may ease the implementation of the Green Waqf program. The banks and other Islamic finance institutions can also utilize their social fund to participate in Green Waqf financing.

5. Waqif (*Waqf Donor*)

Waqif (waqf donors) are people or institutions who are willing to donate their assets in the form of fixed assets, such as land and buildings, or in the form of liquid assets, such as cash or bonds, to be used for Green Waqf projects.

6. Nazir (Waqf Manager)

A nazir (waqf manager) is a person or institution that has the responsibility of managing the assets of a Green Waqf project.

7. Takaful

Takaful is a type of Islamic insurance wherein members contribute money into a pool system to guarantee each other against loss or damage. In this context, takaful can be a guarantor to Green Waqf projects.

8. Pesantren and Islamic (community) Organisations (Ormas Islam)

Pesantren is a traditional educational institution that mostly takes care of waqf assets. Utilization of the waqf land of the pesantren will also revive the waqf as well as generate income for the pesantren from the project on the waqf land. Ormas Islam is a community organization that can encourage community groups to give a contribution to waqf projects.

9. Universities/Research Centre

Universities and research centers, including the National Research and Innovation Agency (BRIN), could conduct research and development on tamanu/*Calophyllum inophyllum* plants and other possible varieties and sources that can be used as part of the Green Waqf programs. Independent research centers, such as the Waqf Center for Indonesian Development and Studies (WaCIDS), International Center for Awqaf Studies (ICAST), and other research institutions, can become involved in doing more research related to waqf and into innovation that can be made to support Green Waqf. The universities can also promote Green Waqf by incorporating the projects in their community services programs.

10. National Islamic Economy and Finance Committee (KNEKS)

KNEKS can encourage all ministries and agencies that become its members and stakeholders to participate in the Green Waqf programs. Since this committee is chaired directly by the President of Indonesia, KNEKS can issue the recommendations needed to ensure and support the implementation of the green waqf program. Such KNEKS recommendations can be translated into various regulations, such as Presidential Regulation and Ministerial Decrees, which would provide a solid legal foundation for the execution of Green Waqf programs.

11. Professional Association

Professional associations, such as the Indonesian Association of Islamic Economist (IAEI) and Islamic Economic Society (MES), may take part to accelerate the Green Waqf program. They could also participate in green waqf campaigns as well as in policy advocacy.

Green Related Stakeholders

12. Ministry of Environment and Forestry (MOEF)

The Ministry of Environment and Forestry is a government institution that has been the main focal point for UNFCCC regarding climate change-related actions. This institution also has the authority to provide access (i.e., land) for green waqf projects so that they can be used as an instrument to support reforestation in Indonesia.

13. Ministry of Energy and Mineral Resources (MOEMR)

The Ministry of Energy and Mineral Resources could coordinate the green waqf developments that could create renewable energy that is environmentally friendly. In the case of the tamanu plant pilot project, the ministry could utilize the results and encourage relevant industry stakeholders to participate in tamanu production as a source of renewable energy. The MOEMR may also stimulate the industry to innovate further by incorporating green waqf in their action plans.

14. Ministry of Finance (MOF)

The Ministry of Finance could support the green waqf project by offering an innovative financing scheme. For instance, MOF may propose that a green waqf project may be part of the underlying asset for sovereign sukuk issuance including cash waqf linked sukuk (CWLS) issuance.

15. Financial Services Authority (OJK)

The Financial Services Authority (OJK) can play a role to encourage all Islamic financial institutions under its supervision to participate actively in the green waqf project. OJK can also propose various possible scheme to finance the green waqf project. For example, OJK may encourage the issuance of sukuk linked waqf, which uses sukuk funds to finance waqf projects. OJK may also encourage the Islamic banking industry to promote green waqf in their products.

16. Ministry of Agriculture (MOA)

The Ministry of Agriculture could establish cooperation for the cultivation of varieties used by Green Waqf projects, including tamanu/*Calophyllum inophyllum* plants. The MOA may also suggest the use of certain varieties that can ensure ecological sustainability as well as supporting the social and economic impact of green waqf.

17. Ministry of National Development Planning (BAPPENAS)

Ministry of National Development Planning (BAPPENAS) as a government body could include Green Waqf as part of a green economy concept in the 17 SDGs to be achieved by 2030. This agency may also include the Green Waqf Framework in its long-term and middle-term national development planning.

18. Wellness and Halal Industry

The wellness and halal industry has a specific role in the implementation of the Green Waqf pilot project. As off-takers and users of tamanu/*Calophyllum inophyllum*, they could plant or buy the materials from this plant for incorporation in their products. The success of the pilot project could be expected to lead the industry to expand their Green Waqf projects to other varieties.

19. Ministry of Trade (MOT) and Ministry of Industry (MOI)

The Ministry of Trade could promote the products of green waqf projects in the domestic as well as international markets, while the Ministry of Industry may encourage and provide a stimulus to relevant industries to participate in green waqf projects.

20. Ministry of Cooperatives and SMEs (MOCSMEs)

The Ministry of Cooperatives and SMEs could promote green waqf projects, such as tamanu/*Calophyllum inophyllum* plants, to SMEs. The SMEs could use the raw material for their products or they could participate in the production process of tamanu plantation that meet their business scale.

21. Chamber of Commerce (KADIN) and Industry Association

The Chamber of Commerce (KADIN) and relevant industry associations are parties with capabilities to promote financial, technology, and market access. Their participation may leverage and help scale up the green waqf projects. They can play various roles, including the wakif role and business partner role, in producing and marketing Green Waqf value-added products.

22. United Nations Development Programme (UNDP)

UNDP as a multilateral institution could bridge this project with other partners and support project preparation with relevant stakeholders. UNDP can also play a significant role to socialize the concept and implementation of the green waqf project in Indonesia to the rest of the world. This will strengthen the position of Indonesia

23. Greenpeace International and other relevant NGOs (NGOs)

The roles of Greenpeace International as an international NGO could include both campaigning and promoting the green waqf project. This would attract massive participation from other NGOs, including domestic NGOs, such as the Indonesian Forum for the Environment (WALHI).

Islamic-finance-related stakeholders and green-related stakeholders have the same concerns and perspectives and interests in the concept of human beings' welfare and sustainability (Freeman, 2010). In this green waqf project, stakeholders do not have a hierarchy of importance. However, in its implementation, each stakeholder will have their respective roles that are in line with their respective functions.

Waqf may open opportunities for cooperation with any stakeholder in any sector that comply with waqf requirements. The role of waqf as socio-economic development and economic sustainability development is considered as a proxy that can be used to improve social welfare.

The utilization of waqf property in green projects, such as planting tamanu trees on waqf land or with cash waqf schemes, is a breakthrough that must be made for facilitating sustainability.

The Green Waqf tamanu project can also produce products in the form of biofuels and wellness products. Therefore, the pilot project can be a strategic solution in driving community-based energy production in Indonesia (Andrian & Niswah, 2022). This project also needs the involvement of various parties, such as the MOF, MOEMR, MOCSMEs, MOA, Wellness and Halal Industry, and other parties, as stakeholders, as discussed above and highlighted in Table 1.

4.2 Proposed Pilot Project- Tamanu Plantation

Climate and environmental issues, both in the global and national context, are urging Indonesia to achieve the target of its NDC. Among the main efforts is the transition to renewable energy, including from biofuel. In Indonesia, the green waqf pilot project was initiated by Muhaimin Iqbal and officially launched by the Waqf Center for Indonesian Development and Studies (WaCIDS) in collaboration with Yayasan Dana Wakaf Indonesia on August 22, 2021. This project focuses on planting and processing tamanu.

Among the potential green projects for the pilot phase, this framework proposed the plantation and processing of tamanu due to several reasons. Tamanu/Nyamplung/*Calophyllum inophyllum* has potential for both land restoration and as an alternative source of biodiesel. It grows well in harsh environments and has more than a 90% survival rate on low fertility and acidic soil. This tree adapts well to different land types. It meets US and European Union standards for providing biodiesel. It is also able to replace fossil fuel-based diesel without engine modification. With suitable treatment, tamanu trees can start to flower after 18 months and fruit after 24 months (Leksono et al., 2021).

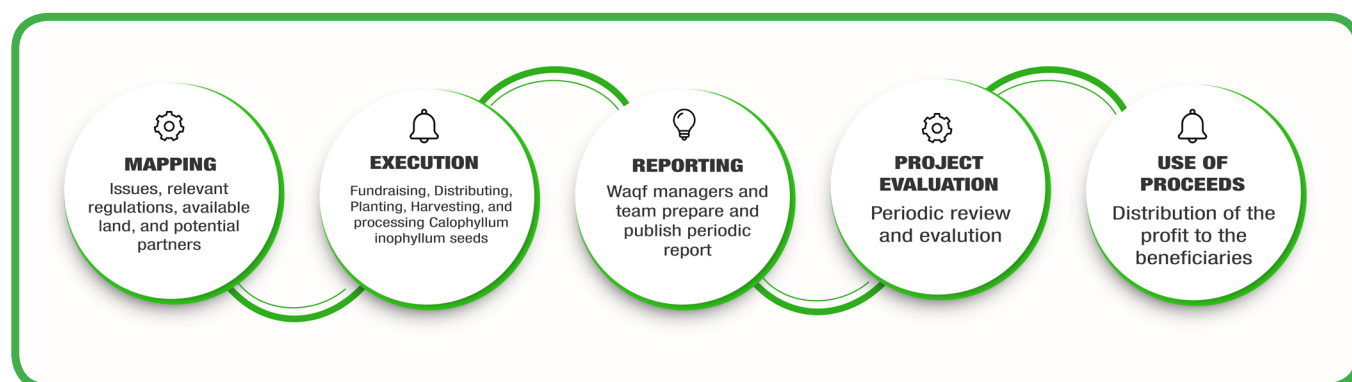
Previous studies have identified many benefits of tamanu. Tamanu produces fruits all year round, up to 20 ton/ha/year, of which 2–2.5 kg can produce 1 liter crude *Calophyllum* oil/CCO). In Indonesia, the produced biodiesel has been found to fulfill 18 criteria of the Indonesian National Standard (SNI) (Leksono, 2016; Leksono, Hendrati, et al., 2014). Other than their usage for biofuels, tamanu fruits can further be processed for the pharmaceutical industry, wellness industry, and paint, coatings, and chemical industry. These diversified products do not include the potential usage of its leaves.

Tamanu can be planted in barren and critical land. In the context of Indonesia, where there exists much idle land that has been endowed based on the Islamic teaching called waqf, this opens up wide areas for the tamanu tree (*Calophyllum inophyllum*) to be planted. In addition, there are around 14 million critical lands in Indonesia, with around 40% of these suitable for tamanu plantation (WaCIDS, 2021).

The green waqf pilot project can be replicated and scaled-up in Indonesia and other countries. With technology that is still under development, fruits from the plantation can be processed to produce new renewable energy. In this case, waqf can be utilized to help sustainable development as well as developing collaboration in this strategic sector. By optimizing waqf in strategic sectors, it can help achieve the goals of sustainable development and prosperity for

the people of Indonesia, including meeting the SDGs number 7 (affordable and clean energy) and 13 (climate action). In addition, this project also can help reduce deforestation, restore degraded land, and provide employment and income to smallholder farmers and community groups. The green waqf pilot project also collects data on the idle waqf land and critical land in Indonesia before the distribution of seeds. The outcome is crude oil from the trees, which can be processed into biofuels, medicine, and cosmetics that can be marketed and used to meet the community's needs.

Figure 16. Procedures of Implementing Green Waqf Pilot Project



1. Mapping

The first process carried out by the green waqf pilot project team is mapping the relevant issues, including the relevant government regulations related to waqf and the environment. There is also a necessity to identify available and suitable land and potential partners/collaborator to expand the campaign and widen the impact of this project.

2. Execution

In this phase, the Green Waqf pilot project team will do a fundraising campaign and distribute Calophyllum inophyllum seeds. Tamanu seeds will be planted until harvest by waqf managers (nazir) in collaboration with experts and relevant collaborators. Individuals or communities interested in becoming involved in this project are also welcome to join. After harvesting, Calophyllum inophyllum seeds are processed into crude oil, processed to various products, and finally marketed to the public.

3. Reporting

Waqf managers and the Green Waqf pilot project team will prepare and publish periodic reports related to their activities. Such reports may include the carbon tracking, which later can be channeled to green cryptos initiated by IBF Net (2021).

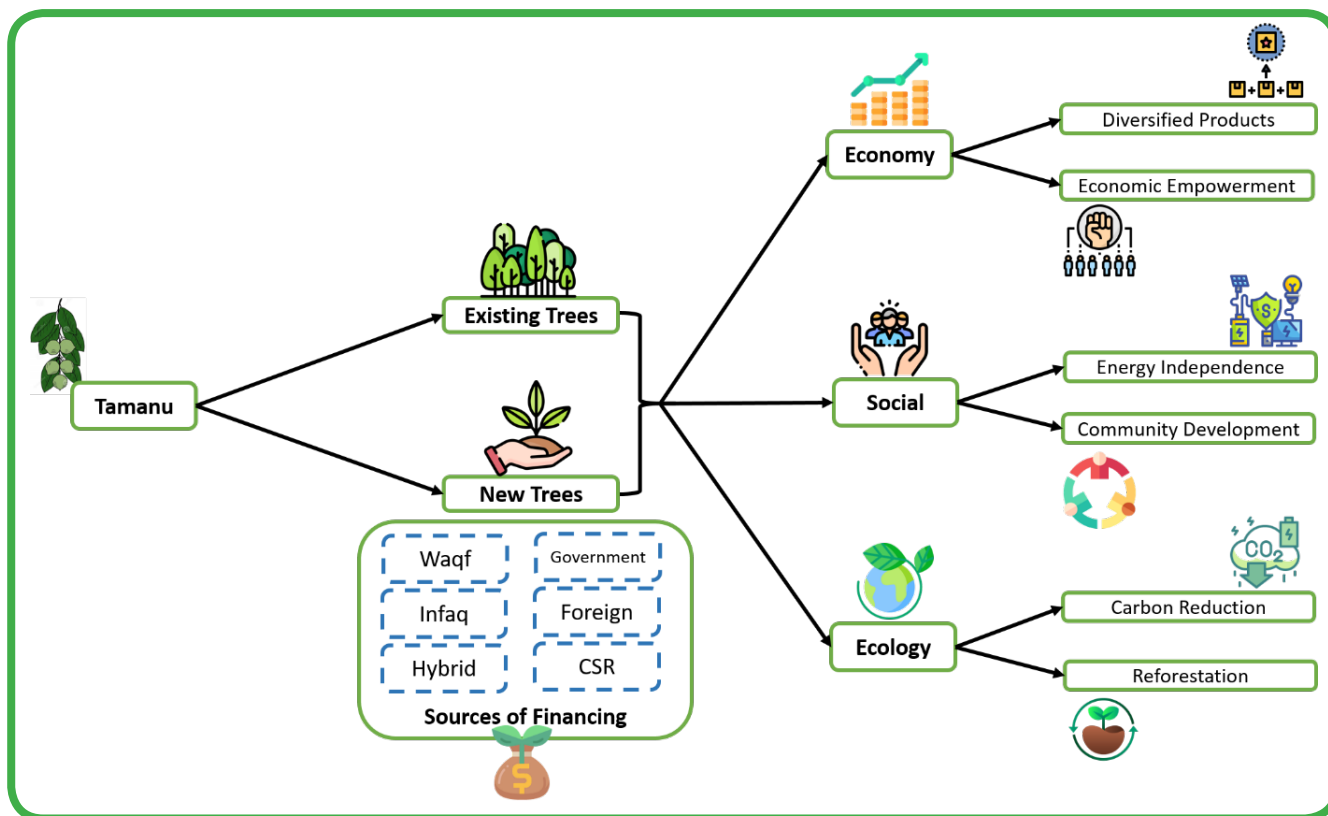
4. Project Evaluation

Waqf managers and Green Waqf Pilot Project team will evaluate the project on a regular basis.

5. Use of Proceeds

The portion of profit obtained from the Green Waqf Pilot Project will be distributed to beneficiaries.

Figure 17. Impact of Tamanu Based Projects



Data on existing trees are required to identify and map the existing trees and different varieties. In parallel, new trees (quality seeds) can be planted with the funds from waqf, infaq, government, CSR, foreign, and/or hybrid combinations of those alternatives. Since green waqf projects aims to ensure benefits for the economy, social, and environment, the proposed impact measurement and management systems need to accommodate these three dimensions. In terms of economic benefit, profits from processing tamanu into diversified products (including halal products), or gigawatts of renewable energy, or contribution to the Nationally Determined Contribution (NDC) can be used as indicators. In terms of social impact, the number of beneficiaries of the waqf program and the recipients of community development programs, and biofuel access can be among the proposed indicators. In addition, to measure the contribution to the ecology dimension, the number of planted trees, contribution to reforestation (in size), contribution to degraded land restoration (in size), and contribution to carbon reduction (carbon tracking) can be among the proposed indicators. When it is possible, the carbon offset from the planted tamanu trees can be considered as an additional economic benefit from the green waqf pilot project.

Table 2. Estimated Financial Benefits From Tamanu Plantation and Processing

	Share (%)	Weight	Price (USD)	Total
Estimated harvest 20,000 kg per year/ hectare		20.000		
Estimated revenue (Tamanu Crude Oil/ TCO)	40%	8.000	12	96.000
Estimated plantation costs (until 1st harvest)				2.023
Estimated production costs				10.667

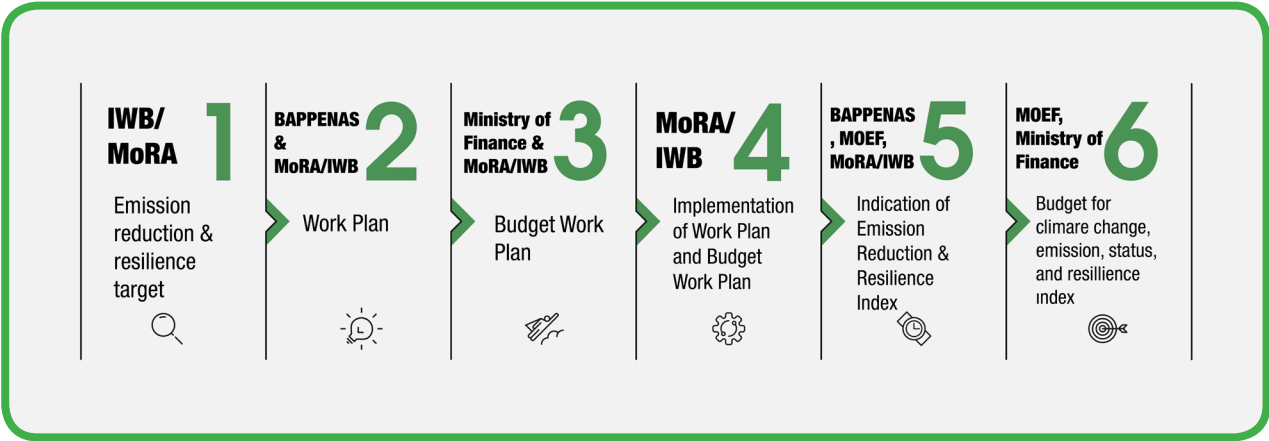
Source: Leksono et al. (2016; 2008; 2014) and Iqbal (2022)

The above table represents an illustration of the financial benefit that can be gained from tamanu processing. The assumptions based on previous studies conducted by Leksono et al. (2016; 2014) and Iqbal (2022). The estimated revenues, plantation costs, and production costs per hectare per year were up to USD 96,000, USD 2,023, and 10,667 respectively. Assuming that the tamanu could utilized the available waqf lands or critical lands in Indonesia, there will be no cost for land acquisition. This amount does not include other revenues from other possible activities, such as carbon offset and honey cultivation from tamanu trees.

For the realization of the Green Waqf project, it is necessary to identify the source of financing that could facilitate the project under a Green Waqf. Here, financing that can be used for Green Waqf projects could come from several sources: First, the use of waqf funds, including direct, indirect, and hybrid funds as elaborated in the financial aspect in Figure 13. Another feasible financial strategy is to coordinate with several related institutions, such as IWB, the Ministry of Finance, Bank Indonesia, and Islamic Banks, to issue Green Sukuk instruments. For the issuance of green sukuk for Green Waqf projects, BWI coordinates with MOF and Bank Indonesia for the issuance of cash-waqf-linked sukuk (CWLS) and sukuk-linked waqf (SLW).

Currently, Indonesia is in the process of expanding its budget tagging process to biodiversity under the Biodiversity Financing Program. The green waqf project can be proposed by relevant ministries, such as MORA and MOEF, and submitted to BAPPENAS and MOF. BAPPENAS recommendation and MOF approval are required to obtain state budget financing.

Figure 18. Proposed Budget Tagging of Green Waqf



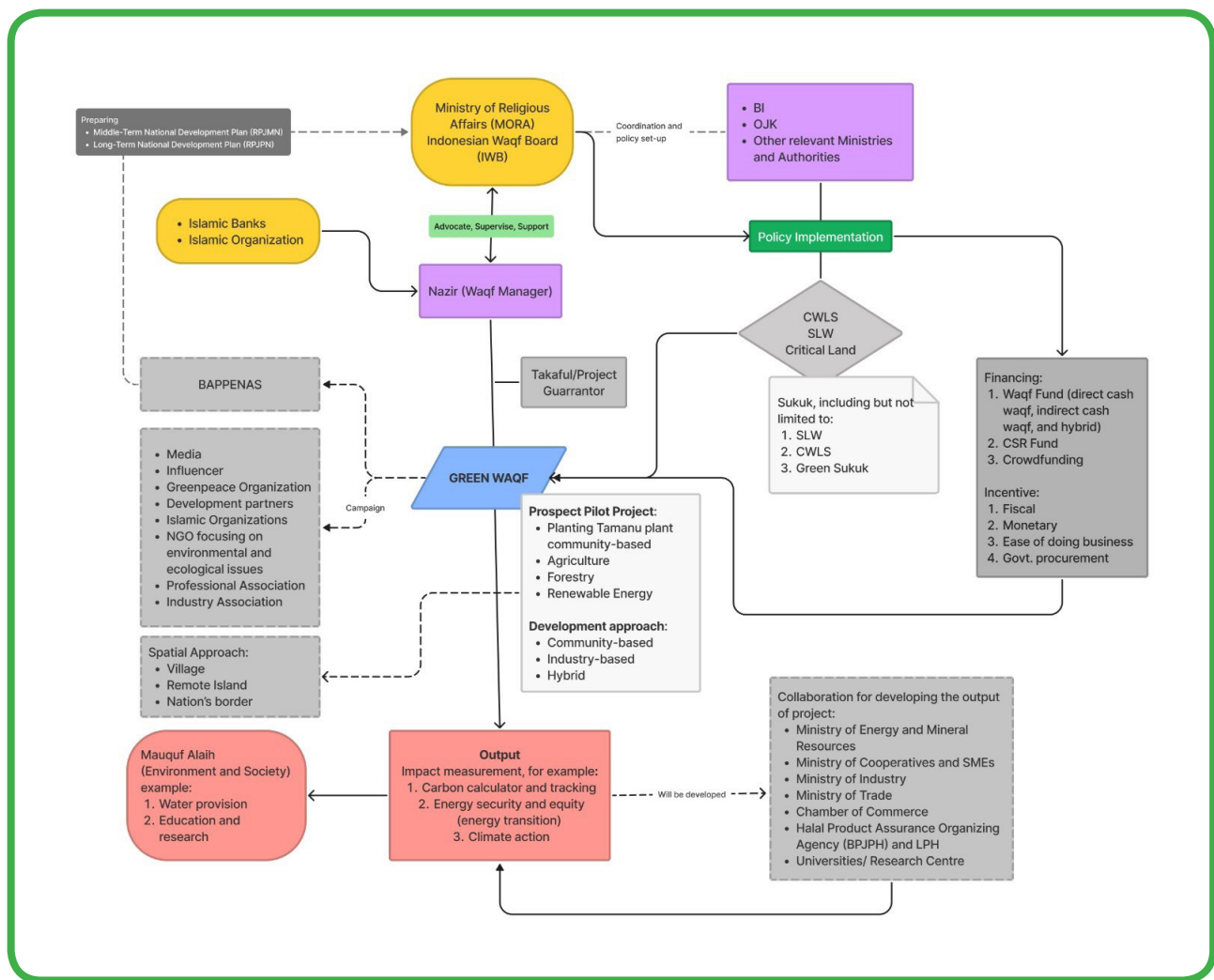
Source: Adapted from Indonesia’s Green Bond & Green Sukuk Initiative, Ministry of Finance and UNDP (UNDP, 2021).

In addition, other sources that can be used to finance green waqf projects include different allocations from the state budget (APBN, APBD, and CSR funds). Projects from the ministries that could be collaborate with several programs would accelerate the realization of the goal of achieving carbon reductions. Furthermore, international financing with sharia schemes from several institutions, such as the Islamic Development Bank (IsDB), and crowdfunding could also be implemented to support this project.

Figure 19. Sources of Financing For The Green Waqf



Figure 20. Green Waqf Ecosystem



1. To promote the sustainability of the program, the Green Waqf Framework or the proposed projects need to be acknowledged in long- and middle-term national development plans by BAPPENAS. The waqf authorities, which in Indonesia is BWland MORA, will be the coordinators of the Green Waqf projects. Registered waqf institutions (nazir) are welcome to join as partners
2. A massive campaign is needed involving various stakeholders, media, influencers, Greenpeace, UNDP, Islamic organizations, NGOs focused on environmental and ecological issues, professional associations, and industry associations.
3. Green Waqf projects need to be covered by takaful/project guarantor. Potential projects include planting and processing tamanu, agriculture, forestry, and renewable energy. A project can be community based, industry based, or a hybrid of both. A spatial approach would be useful to identify the profiles of prospective projects.

4. Projects can utilize the available critical land with various sources of funding, including social and commercial Islamic finance, such as the waqf fund, CSR fund, crowdfunding, CWLS, SLW, Green Sukuk, APBN, and APBD.
5. Several incentives in terms of fiscal, monetary, ease-of-doing business, and government procurements are necessary to promote the implementation, especially in the initial years.
6. Proper output and outcome measurement is needed, such as the amount of carbon reduction, renewable energy produced, and climate action.
7. The profits from green waqf projects will be allocated for mauqf alaih, such as water provision and education and research.



CHAPTER 5

EVIDENCE-BASED PRACTICE

CHAPTER 5 EVIDENCE-BASED PRACTICE

5.1 Waqf Forest

One example of empirical contribution of waqf toward green development is a waqf forest. There are several different communities with similar concepts, whereby a forest is built on the waqf land to reduce natural disasters through providing ecological, economic, and social humanitarian support. The Bogor Waqf Forest Foundation is one of the existing waqf institutions (nazir) in Indonesia conducting those three programs (K. M. Ali et al., 2021).

Ecological advantages can be gained through land rehabilitation by planting various types of trees on waqf land. To this end, the above foundation initiated fundraising to convert private land into waqf land and waqf forest. Ecological and economic benefits could be gained in parallel by planting trees that produce fruits that could be sold to receive a financial return. On the other hand, benefits in terms of social humanitarian aspects could be promoted by providing ecological and disaster related education to the local community around the waqf forest. In addition to those benefits, the waqf forest aligns with several goals in the SDGs, including reducing poverty and hunger (SDGs 1 and 2), maintaining climate (SDG 13), health (SDG 3), and water supply (SDG 6) (K. M. Ali & Kassim, 2020). In addition to the waqf forest, there are some other waqf institutions in Indonesia that have tree plantation programs to support green initiatives and empower farmers in the surrounding areas.

5.2 Berbagi Listrik Projects

Berbagi Listrik projects are imitated by Wakaf Energi Nusantara Foundation to provide electricity in remote areas using Islamic social finance, especially waqf. Among three different models that have been adopted (charity model, waqf model, and waqf-productive model), the waqf-productive model is able to integrate the waqf and community development to provide economy, social, and ecological benefit (BerbagiListrik, 2021; Listiana et al., 2021). This project aligns with SDG 7 to provide affordable and clean energy by installing solar panels in remote areas in Indonesia. The existence of Berbagi Listrik enabled community empowerment in remote areas through the provision of solar panel-based electricity, allowing economic activity by the local community to be maintained. Furthermore, by providing electricity for communities in remote areas, it will enable them to be included in the economic and social dynamics with the rest of the country, which was difficult to achieve before due to the lack of infrastructure.

5.3 Kuwait Company For Environmental Services

Kuwait, a Gulf state, has a special agency tasked with waqf management, namely Kuwait Awqaf Public Foundation (KAPF). KAPF not only focuses on ordinary waqf management, such as mosques, but has also initiated efforts to support environmental protection. First, in 1993, KAPF established a waqf company called Kuwaiti Company for Environmental Services, with its main focus on cleaning services. Second, KAPF established an environmental fund in 1995 with the aim to protect and preserve the environment in Kuwait through the provision of a dedicated waqf fund (Yaakob et al., 2017). This project aligns with SDG 13 (climate action) and enables continuous effort to tackle environmental problems in small states through the provision of a dedicated perpetual fund for the environment.

This is important for a country like Kuwait because despite having plenty of wealth from oil, the country has difficult environmental situations, such as a small land-area and desert-climate. This project aligns with SDG 13 (climate action) and enable continuous effort to tackle environmental problem in small state with provision of dedicated perpetual fund for environment. This is important for a country like Kuwait because despite having plenty of wealth from oil, the country has difficult environmental situations such as small land-area and desert-climate.

5.4 Establishment of a Piped Water System in Shiraz City

Haj Muhammad Namazi was the founder of Shiraz Water Corporation, which initiated the establishment of a piped water system to combat diseases in Shiraz City. This was done after Haj Muhammad Namazi established a treatment center and consulted with experts at the end of World War II (circa 1944). The project has been conducted since 1945 and was completed in 1952 after a series of well excavations were made to add flows to the existing city aqueducts (Qanats). Upon completion, he decided to endow the whole project and appoint a council of custodians to ensure that the access to water could be maintained for the entire population of Shiraz City. The endowed Shiraz City water complex included 60 water wells and 1,300 kilometers of pipe networks and served 175,000 subscribers in 1990 (Mohsin et al., 2016). This project brings benefits to the society of Shiraz City, such as universal access to water for the municipal population and a decrease in the emergence of diseases, which echo the spirit of SDG 3 (Health for All) and SDG 6 (Clean Water and Sanitation).



CHAPTER 6

POLICY RECOMMENDATION

Environmental protection and energy sustainability are two important yet intertwined issues in the realm of sustainable development. While important and fundamental for the livelihood of the global population, progress to achieve targets in these issues is still a challenge at the global level due to various factors, one of them being financing. This is also applicable for Indonesia as a developing country with an emerging economy.

Therefore, to support the Indonesian government's commitment toward the Paris Agreement and SDGs agenda, this study proposes a Green Waqf Framework as guidance for stakeholders who are willing to enhance national funding by utilizing waqf as a socio-religious scheme of funding to finance green projects in Indonesia.

Given the framework proposed within this study, several policy recommendations are provided as following:

1. Government through various agencies should provide essential support to enable the implementation of the Green Waqf Framework and its aligned projects. Such support includes but is not limited to: a) streamlining the Green Waqf Framework into national strategic development plans, whether for long-term (like RPJPN) or medium-term (like RPJMN) development plans; b) technical regulation as part of the implementation of Indonesia's NDC from various agencies; c) monetary, fiscal, and structural incentives for parties involved in green waqf projects.
2. Waqf authorities or relevant entities should coordinate the implementation of pilot projects and ecosystem development so that the feasibility and sustainability of the projects and development can be maintained.
3. Inclusion of Green Waqf Framework materials as part of the public communication effort to support an environmental protection and energy sustainability campaign. This may include the inclusion of green waqf materials in the public space, digital media, and even religious sermons (like khutba in the Islamic tradition).
4. Higher education institutions to accommodate Green Waqf projects as part of students' study plans, like the Kampus Merdeka platform.
5. Strengthening the technical aspects of the Green Waqf projects' implementation, such as: i) the availability of a standard operating procedure required for the project; ii) a monitoring and evaluation system; and iii) an emission reduction measurement method. These technical aspects must be drafted in good quality and regularly evaluated so that continuous improvement can be maintained.

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<https://wacids.or.id/>

<https://www.bwi.go.id/>

<https://www.greenwaqf.org/>

Annexes

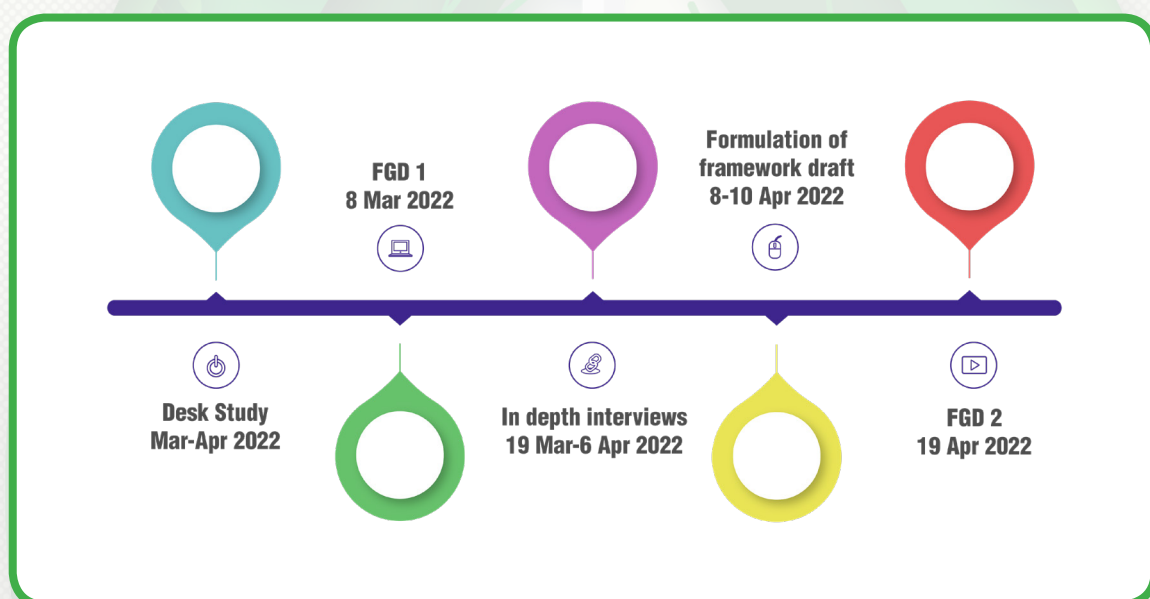
Methodology

This research employed a qualitative approach as it is considered to be more suitable to explore and understand phenomena in natural settings and to address practical issues (Creswell & Creswell, 2018; Eriksson & Kovalainen, 2008). In terms of the data collection, the focus group discussions (FGDs) and interviews were the main sources.

FGD has high validity as it accommodates real-life feedback from informants (Puvenesvary et al., 2008). The first FGD was conducted on 8 March 2022 to explore and identify the strategic issues that are relevant for the green economy and how waqf can address these. This session invited experts with waqf (BWI), energy (Green Waqf), and environment (activist and lecturer) backgrounds as speakers. In addition, relevant stakeholders, including representative from KNEKS, BAPPENAS, MOEF, MOF, Bank Indonesia, as well as UNDP attended and contributed feedback.

Following the first FGD, eight in-depth interviews were conducted between 19 March to 6 April 2022 according to the availability of the respective interviewees. Guest, Bunce, and Johnson (Guest et al., 2006) suggested that 6–12 interviews are sufficient to provide meaningful themes and useful interpretations. The interviewees were experts with different backgrounds and were selected based on their exposure and experience with the topics of the green economy, waqf, and energy industry. A similar interview protocol with a semi-structured format was employed to accommodate the depth and alignment with the topic of discussion. According to the collected data from these interview sessions along with a review of the relevant policies and regulations, a consignment process was conducted to develop the framework. Second FGDs were conducted to seek feedback regarding the proposed framework and these were attended by representatives from invited institutions in the first FGD, with additional personnel from the pharmacy and halal industry and also from the financial services authority.

Figure 20. Green Waqf Ecosystem



One on one in-depth interview with seven key informants were conducted during 19 March to 6 April 2022 to further explore and identify the relevant stages to develop and implement the green waqf. A semi-structure format was conducted to accommodate the thematic talk with an in- depth elaboration about green waqf (Gill et al., 2008). A thematic approach was used to analyze the collected data from the interviews.





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