INTEGRATION OF GREEN SUKUK AND CASH WAQF LINKED SUKUK FOR FINANCING AGRICULTURE SUSTAINABLE

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Abstract: Green sukuk has an underlying form of environmental preservation activities and is a form of Indonesia's commitment to addressing the impacts of climate change. The Cash Waqf Linked Sukuk (CWLS) is a cash waqf investment in SBSN where the imbalance is channeled to social activities including social infrastructure which is a waqf asset. Based on the two-state sukuk innovations, in general, this research intends to integrate the implementation of green sukuk and CWLS in sustainability. The method used in this research is a qualitative approach with descriptive analysis. The results of this study are the proposed Green CWLS model for financing the agricultural sector. This innovation will be a breakthrough in funding to reduce climate change as well as providing opportunities for Muslims who wish to invest socially, especially in the agricultural sector. Based on the contract used, green sukuk can use ijarah, murabahah, salam, ishtisna`, mudharabah and musyarakah contracts. While CWLS uses a wakalah contract. The hope is that this can become a new recommendation for policymakers such as the Ministry of Finance, the Indonesian Waqf Agency , the Ministry of Religion, and Bank Indonesia in advancing fiscal finance while trying to balance economic and environmental impacts which are currently the focus of all countries. In addition, this model also supports the agricultural sector to improve the welfare of local farmers and ensure food security and security for the people of Indonesia.

Keywords: *green sukuk; cash waqf linked sukuk; sustainable agriculture.*

Abstrak: Green sukuk memiliki underlying berupa kegiatan pelestarian lingkungan hidup dan sebagai perwujudan komitmen Indonesia dalam mengatasi dampak perubahan iklim. Adapun Cash Waqf Linked Sukuk (CWLS) merupakan investasi wakaf uang dalam Surat Berharga Syariah Negara (SBSN) dimana imbalannya disalurkan untuk kegiatan sosial termasuk infrastruktur sosial yang menjadi aset wakaf. Berdasarkan kedua inovasi sukuk negara tersebut, secara umum penelitian ini bermaksud mengintegrasikan implementasi green sukuk dan CWLS dalam pembiayaan pertanian berkelanjutan. Metode yang digunakan dalam penelitian ini adalah pendekatan kualitatif dengan analisis deskriptif. Hasil penelitian ini adalah usulan model Green CWLS untuk pembiayaan sektor pertanian. Inovasi ini akan menjadi kebaruan dalam pendanaan fiskal untuk mengurangi perubahan iklim sekaligus memberikan peluang bagi muslim yang ingin berinvestasi sosial khususnya dalam sektor pertanian. Berdasarkan akad yang digunakan, green sukuk dapat menggunakan akad ijarah, murabahah, salam, ishtisna`, mudharabah and musyarakah. Sedangkan CWLS menggunakanm akad wakalah. Harapannya hal ini dapat menjadi rekomendasi baru bagi pemangku kebijakan seperti Kementerian Keuangan, Badan Wakaf Indonesia (BWI), Kementerian Agama dan Bank Indonesia dalam memajukan keuangan fiskal sekaligus berupaya menyeimbangkan dampak ekonomi dan dampak lingkungan yang saat ini menjadi fokus semua negara. Di samping itu, model ini juga berpihak pada sektor pertanian dengan tujuan mensejahterakan petani lokal dan menjamin ketahanan serta keamanan pangan bagi masyarakat Indonesia.

Kata-kata Kunci: green sukuk; cash waqf linked sukuk; pertanian berkelanjutan.

Introduction

Currently, the issue of environmental sustainability and health is becoming a trending topic in international meetings between countries. As a result, the green economy, or economic growth based on the environment, has attracted the attention of many nations. The 2015 Paris Accord, which is an agreement to save and protect natural resources and lessen the adverse effects of climate change, include a commitment to environment-based economic growth[1]. Climate change is the most significant challenge for the environment. The effects of climate change are very broad, including across all sectors of the economy, society, natural resources, and biodiversity[2]. According to Pereira[3], currently sustainability is an important goal for all industrial sectors and has led to increased worldwide use of renewable resources as an ecological alternative.

[1] Ramdansyah Fitrah and Andri. Soemitra, "Green Sukuk For Sustainable Development Goals in Indonesia: A Literature Study," *Jurnal Ilmiah Ekonomi Islam* 8, no. 1 (2022): 231–40, https://jurnal.stie-aas.ac.id /index.php/jie%0A.

[2] Tina Sri Purwanti et al., "What Drives Climate Change Adaptation Practices in Smallholder Farmers? Evidence from Potato Farmers in Indonesia," *Atmosphere* 13, no. 1 (2022), https://doi.org/10.3390/atmos13010113.

[3] A. E. S. Pereira, J. L. Oliveira, and S. M. Savassa, "Lignin Nanoparticles: New Insights for a Sustainable Agriculture," *Journal of Cleaner Production* 345, no. 131145 (2022), https://doi.org/10.1016/j.jclepro .2022.131145.%0A.

However, one of the obstacles in dealing with climate change is the financing gap. Large amounts of money are needed to realize a green economy, particularly for initiatives using renewable energy[4]. This problem therefore motivates participants to develop financial tools that concentrate on supporting initiatives that adhere to environmental, social, and governance (ESG) principles and the accomplishment of Sustainable Development Goals (SDGs).

As in Musari's research[5] that the majority of countries are currently looking for creative financial solutions to face a triple dilemma, namely extraordinary climate change, natural losses, and debt levels. Currently, the largest asset class in the portfolios of the majority of institutional investors is sovereign bonds. One of the instruments to link national environmental and climate commitments with sustainable state financing is *sustainability-linked bonds* (SLBs).

The World Bank issued USD 8.5 billion in Green Bonds in 2015, which were distributed among 15 different currencies. The fact that Green Bonds fall within the umbrella of high-quality, low-risk financial products makes them unique. Financial solutions based on renewable and sustainable energy are now available in sharia financing thanks to the Green Bond, which serves as an environmental investment vehicle. Green Sukuk is a sharia investment product with a comparable principle [6].

The environment will be negatively impacted by the excessive use of natural resources and minerals in infrastructure development in a growing nation like Indonesia, which places a premium on growth in a variety of areas. In order to enhance the environment, efforts must be made to raise awareness and execute sustainable initiatives. The existence of green sukuk in Indonesia is highly significant and has great potential in order for its growth to be consistent with efforts to protect the environment. An innovative financial tool called a "Green Sukuk" is being used by Indonesia to assist its pledge to comply with Islamic law and minimize greenhouse gas emissions. According to Azhgaliyeva & Kapsalyamova[7], green sukuk have the potential to expand investment in climate change adaptation and mitigation, especially access to private and global money from ethical investors with green investment goals.

Through the Ministry of Finance, the Indonesian government initiated the domestic issuance of green sukuk in 2018, which in its sales also aimed to attract

[4] Fitrah and Soemitra, "Green Sukuk For Sustainable Development Goals in Indonesia: A Literature Study."

[5] Khairunnisa Musari, "Integrating Green Sukuk and Cash Waqf Linked Sukuk, the Blended Islamic Finance of Fiscal Instrument in Indonesia: A Proposed Model for Fighting Climate Change," *International Journal of Islamic Khazanah* 12, no. 2 (2022): 133–44, https://doi.org/10.15575/ijik.v12i2.17750.

[6] Eka Septiana and Gemalia Dewi, "Challenges and Opportunities for the Development of Green Sukuk in Indonesia," *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)* 5, no. 3 (2022), https://doi.org/10.33258/birci.v5i3.5835%0A.

[7] Dina Azhgaliyeva and Zhanna Kapsalyamova, "Inancing Climate Change Mitigation Using Green Sukuk," *International Association for Energy Economics (IAEE) Energy Forum*, 2022, 16–22, https://www.iaee.org /en/publications/newsletterdl.aspx?id=1029%0A.

investors from foreign organizations. The government hopes to use the proceeds from the sale of green sukuk to finance domestic infrastructure projects with sustainable resources, particularly to aid with the distribution of funds for ecologically friendly projects. With issuances of more over US$ 2,000 million in 2018, Indonesia was noted as the first sovereign green sukuk issuer in the world. Until 2021, Indonesia will always be the largest country in issuing *green sukuk* when compared to other countries such as Malaysia, UAE and Saudi Arabia. This shows that the market responds well to the issuance of *green sukuk* in Indonesia.

In her research, Risanti[8] revealed that there are 9 *eligible green sectors* that are targets for *green sukuk issuance* in Indonesia, one of which is the *sustainable agriculture sector* . Based on Lagiman's research[9], sustainability in agriculture refers to the ability of an agricultural enterprise to produce optimal harvests in terms of both quantity and quality, along with efforts to preserve the quality of agricultural resources so that they remain productive and the quality of the environment so that it is preserved for the survival of future generations. According to Law No. 22 of 2019 concerning Sustainable Agricultural Cultivation Systems, it is stated that in order to realize an advanced, efficient, resilient, and sustainable agricultural system, a sustainable development system must be developed in the agricultural sector through agricultural cultivation systems in order to achieve food sovereignty by taking into account the carrying capacity of ecosystems.

According to Wulansari[10], the concept of *sustainable agriculture* emerged due to the increasing use of pesticides, inorganic fertilizers, herbicides and the large number of land exploitations in the long term, causing environmental damage both from soil, air, water and living things. In addition, the use of synthetic chemicals causes damage to soil structure and loss of soil microbes so that agricultural land becomes critical. Modern agricultural practices that are carried out unwisely result in environmental pollution, disease, poisoning and even death in living things.

The *sustainable agriculture system* continues to be encouraged so that it can be widely applied in Indonesia. In his research, Lagiman[11] revealed three things to consider in implementing *sustainable agriculture* , namely the countries at the Earth Summit agreed to play an active role in efforts to preserve the environment through reducing

[8] Maurizka Alifia Risanti, Farouk Abdullah Alwyni, and Prameswara Samofa Nadya, "Prosiding Konferensi Nasional Ekonomi Manajemen Dan Akuntansi (KNEMA) Journal Homepage Peran Green Sukuk Dalam Mewujudkan Pembangunan Yang Berkelanjutan," *Prosiding Konferensi Nasional Ekonomi Manajemen Dan Akuntansi (KNEMA)*, 2020.

[9] Lagiman, "Pertanian Berkelanjutan: Untuk Kedaulatan Pangan Dan Kesejahteraan Petani," *Program Studi Agroteknologi Fakultas Pertanian UPN "Veteran" Yogyakarta*, 2020, 368–69.

[10] I. Wulansari, "Pertanian Berkelanjutan: Untuk Keamanan Pangan Atau Untuk Ketahanan Petani?," 2019, https://www.mongabay.co.id/2019/05/30/pertanian-berkelanjutan-untuk- keamanan-pangan-atau-untuk-ketahanan-petani/.

[11] Lagiman, "Pertanian Berkelanjutan: Untuk Kedaulatan Pangan Dan Kesejahteraan Petani."

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industrial waste and exploiting natural resources in a responsible manner. Second, the community's economic welfare is getting better and people are becoming more aware of a better quality of life supported by a healthy and clean environment. Third, people are increasingly aware of the meaning of health, so they are very concerned about the quality of food and beverage products consumed, both in terms of the production process and the quality of the nutritional content. Currently, several modern markets provide fruit and vegetable products that include labels free of pesticides and other chemicals.

The Cash Waqf Linked Sukuk (CWLS) is an innovation in social investment instruments. The issuance of CWLS by stakeholders is expected to be able to diversify investment instruments for investor groups concerned with social-environmental impacts. It also enriches investment choices in the market and provides social impact returns to social-based investors in a secure scheme[12]. In his research, Cahyono & Hidayat[13] revealed that CWLS is a means of placing *cash waqf* (cash waqf) in State Sharia Securities (SBSN) which was developed to support social facility development programs. CWLS allows the private sector to actively participate in the government's construction of public infrastructure for greater good. The key benefit of CWLS is that it may improve its benefits by offering public infrastructure that is administered by the government, with good governance and minimal risk. The Indonesian Waqf Board, Bank Indonesia, Ministry of Finance, Islamic Financial Institutions, Zakat Institutions, Ministry of Religion, Investors, and (*Maquf Alaih*) or beneficiaries are a few of the organizations in charge of managing CWLS.

For the first time, the Indonesian government has issued the SW001 series CWLS on March 10, 2020 with a total fund of IDR 50,849,000,000. Several institutions participating as investors in the SW001 CWLS series are Hajj fund management institutions, national Islamic banking, Islamic social fund management organizations and LKS-PWU or Islamic Financial Institutions Receiving Cash Waqf. Then the government re-issued CWLS with the Retail series SWR001 on 18 November 2020 with a total purchase order of IDR 14,912,000,000 obtained from 1037 individual waqifs and 4 institutional waqifs (Bank Indonesia, 2021). The issuance of the CWLS is optimized to finance projects or social activities such as the construction of a retina center at Wakaf Achmad Wardi Hospital in Serang and the rewards from the sukuk are used for free cataract surgery and procuring ambulances (Ministry of Finance, 2020).

[12] Muhamad Nadratuzzaman Hosen et al., "Evaluating The Fundraising Process of The World's First Cash Waqf-Linked Sukuk in Indonesia," *Qudus International Journal of Islamic Studies (QIJIS)* 10, no. 1 (2022): 175–214, https://journal.iainkudus.ac.id/index.php/QIJIS/indexhttp://dx.doi.org/10.21043/qijis.v10i1.8161.

[13] Eko Fajar Cahyono and Sutan Emir Hidayat, "Cash Waqf and The Development: A Case Study of Cash Waqf Linked Sukuk in Indonesia," *El-Barka: Journal of Islamic Economics and Business* 5, no. 1 (2022): 150–82, https://doi.org/10.21154/elbarka.v5i1.3713.

Both green sukuk and CWLS are state sukuk innovations. Green sukuk has an *underlying* form of environmental preservation activities and as a manifestation of Indonesia's commitment to addressing the impacts of climate change. The CWLS is a cash waqf investment in SBSN where the rewards are channeled to social activities including social infrastructure which are waqf assets (Ministry of Finance, 2020). Based on the two state sukuk innovations, in general this research intends to integrate the implementation of *green sukuk* and CWLS in sustainable agricultural financing. This innovation will be a novelty in fiscal funding to reduce climate change as well as provide opportunities for Muslims who wish to invest socially, especially in the agricultural sector.

The agricultural sector is one of the main pillars of the livelihoods of the majority of Indonesia's population and the second largest contributor to GDP [14]. However, most of the poor in this country work in the agricultural sector. Even though the agricultural sector makes a significant contribution to the national economy, there are still many farmers living below the poverty line. The substantial influence of agriculture on the regional gross domestic product is demonstrated by Omodero & Dandago (2020). The agricultural sector contributes to GDP, earns foreign exchange, absorbs labor, is the primary source of income for rural households, produces feed and bioenergy, and plays a critical role in efforts to reduce greenhouse gas emissions. These contributions help to explain the agricultural sector's strategic role (Ministry of Agriculture, 2015).

There are several structural issues with Indonesian agriculture funding. First, there is a lack of knowledge and inadequate communication between the financial industry and the agriculture industry. Banks view agriculture as less appealing because agricultural players are less engaged in promoting business possibilities and business prospects in the agricultural sector. The bank only is aware of the dangers that might arise in agriculture based on the season and other factors. Second, there is structural duality in finance between large- and small-scale contemporary agribusiness. Large plantations and contemporary agriculture are the focus of banking. Mass dealing with smallholders will result in significant transaction expenses. Third, macro policy uncertainty and micro pragmatism in the banking industry. This issue emerges because inadequate information flow makes banks less committed to supporting and assisting small farmers in order to increase their appeal and bankability[15]. In fact, financial development in the agricultural sector can increase agricultural production so that farmers will benefit [16].

[14] S. Utama, A. A. Suwarsi, and L. Listiono, "He Role of Islamic Banking in Agriculture Financing: A Case Study of the Indonesian Agriculture Sector," *Humanities and Social Sciences Reviews* 7, no. 2 (2019): 261–69, https://doi.org/10.18510/hssr.2019.7230.

[15] N. N. R. Suasih, M. K. S. Budhi, and P. Y. Wijaya, "Inclusive Crowdfunding Scheme as Capital Source Alternative for Rural Agriculture in Indonesia," in *The 5th International Conference on Agriculture, Environment, and Food Security. IOP Conf. Series: Earth and Environmental Science*, 2022, 10.1088/1755-1315/977/1/012053.

[16] A. Chandio, M.I. Shah, and N Sethi, "Assessing the Effect of Climate Change and Financial Development on Agricultural Production in ASEAN-4: The Role of Renewable Energy, Institutional Quality, and Human Capital as Moderators," *Environ Sci Pollut Res* 29 (2022): 13211–13225, https://doi.org/10.1007/s11356-021-16670-9.

One of the most important factors in establishing a successful and sustainable agricultural enterprise is financing. However, the biggest issue that is frequently brought up in the area is farmers' access to financing. This is a result of farmers not knowing about available financial options. Financial institutions, on the other hand, continue to see and categorize the agricultural industry as unappealing since it is regarded as a high risk sector, dependent on the season and promising unpredictable pricing [17].

Based on the explanation above, the integration between *green sukuk* and CWLS can be used as a financing instrument for sustainable agriculture so that farmers can easily access capital in the hope of increasing farmer welfare while mitigating climate change and maintaining the quality of healthy agricultural products for consumption by Indonesian people. Therefore this study aims to design a scheme or model of integration of green sukuk and CWLS for sustainable agricultural financing. In addition, this research will also examine sukuk and cash waqf linked sukuk laws from an Islamic perspective or fiqh muamalah.

Many studies have been conducted on green sukuk, including by Dincer & Yukse[18] which revealed that renewable energy sources are clean energy sources that meet energy needs in a sustainable manner. Therefore, it is necessary to invest in renewable energy sources. However, there are some difficulties in investing in renewable energy, one of which is inadequate financial support. Furthermore, Dincer & yukse[19] concluded that the production of renewable energy sources can be encouraged with green sukuk. Green sukuk is an advantage for sharia companies that want to realize environmental projects. Rahim's research[20] concluded that the emergence of *green sukuk* did help in improving water quality. Based on research by Assouli et al[21], expanding the green sukuk market can promote environmentally friendly projects and improve livelihoods, as well as help Islamic finance achieve its moral goals.

Research by Morea & Poggi[22] reveals that the use of green sukuk can be used as an alternative financial instrument used to limit the level of *leverage* associated with financing. In the context of efforts to fight climate change and greenhouse gas emissions, Morea & Poggi[23] proves the importance of incentives and the application of the use of sharia-

[17] S. E. Saqib, A. Arifullah, and M. Yaseen, "Managing Farm-Centric Risks in Agricultural Production at the Flood-Prone Locations of Khyber Pakhtunkhwa, Pakistan," *Natural Hazards* 107, no. 1 (2021): 853–71, https://doi.org/10.1007/s11069-021-04610-2%0A.

[18] Hasan Dincer and Serhat Yukse, "The Role of Green Sukuk for Sustainable Energy Production," *Disruptive Technologies and Eco-Innovation for Sustainable Development* 14 (2022), 10.4018/978-1-7998-8900-7.ch003.

[19] Dincer and Yukse.

[20] Siti Rohaya Rahim, "Green Sukuk for Financing Renewable Project," *Turkish Journal of Islamic Rconomics.* 5, no. 1 (2018): 129–44, https://dergipark.org.tr/en/pub/beuntujise/issue/44736/401076. %0A.

[21] D. Assouli et al., "Green Sukuk, Energy Poverty and Climate Change: A Roadmap for Sub-Saharan Africa," *Policy Research Working Paper Word Bank Group.*, 2018.

[22] D Morea and Luigi A. P., "An Innovative Model for the Sustainability of Investments in the Wind Energy Sector: The Use of Green Sukuk in an Italian Case Study," *International Journal of Energy Economics and Policy* 7, no. 2 (2017): 53–60.

[23] Morea and P.

compliant sukuk instruments to provide viable and sustainable investments. Abdullah & Masri[24] in their research revealed that there are various projects that can be financed by green sukuk , both in the generation of natural resources, renewable energy, contributions to society and even in the field of waqf assets. to enter the global market. In addition, the issuance of green sukuk has received tax exemption incentives for several years. The impact of green sukuk is not only felt by investors, but will also benefit society in general. So that in the end the preservation of nature will continue to be enjoyed by future generations.

According to Yunita[25], CWLS operating on a salam contract qualifies as a green sukuk model. The salam contract will assist farmers in growing food on useful land. Traditional market dealers will benefit from the salam contract as well. Given that agricultural land makes up the majority of Indonesia's provinces, there is a fantastic chance to achieve long-term food security in Indonesia. Waqf from Umar bin Khattab still exists today, having learned from the land in Khaibar. The advantages of waqf, which are enjoyed by many people worldwide, are also capable of reducing poverty, as seen by the success of waqf in many nations.

According to Paul et al[26], the Ministry of Finance and the Ministry of Religion decided to make cash waqf an alternative source of state revenue after considering a number of financial concepts to help the economy grow and accomplish the SDGs program's objectives. Additionally, the proceeds from this cash waqf have been effectively distributed to a number of areas, including social, education, infrastructure, health, and others. Cash waqf is possible to boost the growth of the Islamic economy throughout the downturn and recession of the Indonesian economy. When developing cash waqf, when one of the pressing needs is to accelerate sustainable sharia economic development, the existence of CWLS might be a viable choice. CWLS is a complex product that blends social financial tools with sharia commercial banking, giving the public a place to donate alms and make *waqif*s while also advancing the nation's sustainable economic growth.

There have been many studies on green sukuk and CWLS separately before, but there is only 1 article on the integration of green sukuk and CWLS research, written by Musari[27]. The difference between this study and previous research lies in the specificity or focus of financing in the sustainable agricultural sector. So it is hoped that this research can fill in the blanks or complement existing research.

[24] N. Abdullah and A. N. Masri, "Green Sukuk: Financing the Future to Sustainable Environment," *International Journal of Zakat and Islamic Philanthropy* 2, no. 2 (2020): 14–23.

[25] Patria Yunita, "Cash Waqf Linked Sukuk (CWLS) Model: For Indonesia Sustainable Food Security," *Al-Awqaf: Jurnal Wakaf Dan Ekonomi Islam* 13, no. 1 (2020).

[26] W. Paul, Rachmad F., and Hasan B., "Cash Waqf Linked Sukuk Alternative Development of Sustainable Islamic Economic Development Sustainable Goals (SDG's)," *International Journal of Nusantara Islam* 9, no. 1 (2021): 134–48.

[27] Musari, "Integrating Green Sukuk and Cash Waqf Linked Sukuk, the Blended Islamic Finance of Fiscal Instrument in Indonesia: A Proposed Model for Fighting Climate Change."

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Methods

A qualitative technique was adopted for the research. When describing the crucial elements covered in this study, a more exploratory image may be expected to be provided by the qualitative technique. The process of gathering data involves completing literature reviews on a variety of books, scholarly works, journals, articles, and other pertinent materials. Additionally, the type of data analysis performed is descriptive. Descriptive analysis aims to explain research results in a more specific, transparent and in-depth manner because they are often used to describe events or phenomena in real life [28].

Result and Discussion

Sukuk and Cash waqf Linked Sukuk in the Perspective of Fiqh Muamalah

Based on the Fatwa of the National Sharia Council No. 32/DSN-MUI/IX/2002 concerning sharia bonds, sukuk or sharia bonds are long-term securities based on sharia principles issued by issuers to sharia bondholders which require the issuer to pay income to sharia bondholders in the form of profit sharing/margin/fee, as well as repaying the bond fund at maturity.[29] Thus, sharia bondholders will benefit in the form of profit sharing (margin/fee), not in the form of interest.

Instrument Bond Sharia according to DSN Fatwa No. 32/DSN-MUI/ iX /2002 it can published use rule *mudharabah, ijarah, musyarakah, salam, istisna* as well as *murabaha* seen what to wear issuer later. In relation related sukuk investment below Standard Sharia Organization Accountancy and Institutional Audit Islamic Finance (AAOIFI) No. 17 related sukuk, sukuk is interpreted as ownership assets, rights performance and service that is not divided, or project certain or activity investment certain[30]. Based on the Fatwa Council National Sharia (DSN-MUI No. 69/DSN-MUI/VI/2008) Assembly Indonesian Ulema regarding Sharia State Debt Instruments, referred to with SBSN or State Sukuk is letter valuable published country based on principle Sharia, and proof ownership shares (ownership SBSN assets are good both in rupiah and currency foreigners).[31]

The Auditing and Accounting Standards Organization for Islamic Financial Institutions (AAOIFI) divides sukuk into fourteen types. The structure of the sukuk is usually supplemented by another form of nominal contracts, such as a lease (*ijarah)* so that the

[28] Ratna Lukita Indriwati and Fatin Fadhilah Hasib, "The Role of Islamic Family Financial Planning on Fishermen in Sidoarjo Regency Peran Perencanaan Keuangan Keluarga Islami Pada Profesi Nelayan Di Kabupaten Sidoarjo" 9, no. 6 (2022): 850–62, https://doi.org/10.20473/vol9iss20226pp850-862.

[29] Luthfia Ayu Karina, "Peluang Dan Tantangan Perkembangan Green Sukuk Di Indonesia," *Conference On Islamic Management Accounting and Economics* 2 (2019): 259–65.

[30] Yusuf Wildan Nasution, Marliyah Marliyah, and Khairina Tambunan, "Dana Sukuk Sebagai Alternative Sumber Dana Pembiayaan Pada Bank Syariah," *Economic Reviews Journal* 2, no. 1 (2022): 55–67, https://doi.org/10.56709/mrj.v2i1.41.

[31] Miftah Khoiriaturrahmah, Iga Dwi Wardanah, and Maryam Batubara, "Konsep Sukuk Dan Aplikasinya Di Indonesia," *Al-Kharaj : Jurnal Ekonomi, Keuangan & Bisnis Syariah* 5, no. 2 (2022): 480–89, https://doi.org/10.47467/alkharaj.v5i2.1149.

rental income generated from the asset lease is divided equally among the sukuk investors. Some of the standards of the fourteen categories of AAOIFI sukuk pay attention to existing asset leases (and rental interest) or assets to be acquired. Other types relate to agricultural activities, construction, or (*wakalah*) institutional structures (usually used today for investment activities); acquisition of goods (through a *murabaha* structure); Futures contracts are sold for commodities (*sallam)*; and/or investing in companies or projects through passive or active partnerships (*musharakah and mudarabah*).[32]

Green Sukuk is part of the Sukuk. Green Sukuk is a sharia investment concept issued to finance clean and renewable energy projects or investments to protect environmental assets or natural resources. Green Sukuk is a potential financial instrument to support sustainable economic development. Green Sukuk contains two standards, namely to fulfill environmental awareness and sharia compliance mandates.[33] Similar to sukuk, green sukuk adheres to sharia principles in risk sharing, prohibition of interest (*riba*), elements of obscurity (*gharar*), and speculative behavior (*maysir*). Islamic finance supports real economic activity and sustainable development; prohibits products with gambling, short selling, and financing activities that damage society.[34] There are several types of contracts in green sukuk including *ijarah, murabahah, salam, ishtisna`, mudharabah* and *musyarakah.*[35]

Cash Waqf Linked Sukuk uses a sukuk *wakalah* contract because *wakalah* bonds have flexibility in the use of underlying assets. The underlying assets that can be used in the issuance of *Wakalah* SBSN can be a combination of several types of assets, both tangible and intangible assets. Namely, among others, in the form of goods, services, projects, or other assets that are following sharia principles[36]. Saptono[37] also stated that the Cash Waqf Linked Sukuk product combines contracts and sukuk consisting of *tabarru* and *tijaroh* contracts. In contrast to Saptopo, Fad in his research stated that the CWLS contract was permissible. Among the considerations for the permissibility of the CWLS contract is the DSN fatwa regarding sukuk, Articles 112-113 KHES concerning bai al-wafa, and the opinion of DSN MUI Number B-109/DSN-MUI/II/2019 concerning Statements of Harmonization of Syari'ah Cash Waqf Linked Sukuk which Issued on February 6, 2019.[38]

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[32] Kindy R Syahrir, "Kertas Kebijakan Sukuk Hijau (Green Sukuk)," *Academia.Edu*, 2016, 1–30, https://www.academia.edu/38456350/Green_Sukuk_Policy_Paper_2016_edK_21122016?auto=citations&from=cover_page.

[33] Karina, "Peluang Dan Tantangan Perkembangan Green Sukuk Di Indonesia."

[34] Azhgaliyeva and Kapsalyamova, "Inancing Climate Change Mitigation Using Green Sukuk."

[35] A Affandi and N K Khanifa, "Konsep Harta: Penentuan Keuntungan Green Sukuk Pemicu Impact Investment SDGs," *Journal of Economic, Management …* 5, no. 2 (2022): 213–24, https://ojs.unsiq.ac.id/index.php/jematech/article/view/2684%0Ahttps://ojs.unsiq.ac.id/index.php/jematech/article/download/2684/1896.

[36] Imam Teguh Saptono, *Tanya Jawab Wakaf Uang Dan Cash Waqf Linked Sukuk* (Jakarta: Badan Wakaf Indonesia, 2021).

[37] Saptono.

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Green Sukuk in Indonesia

Green sukuk are Islamic financial instruments designed to fund environmentally friendly projects. Sukuk in Arabic refers to certificates that serve as proof of ownership of assets, such as certain project assets or investment activities. Similar to sukuk, green sukuk adheres to sharia principles in risk sharing, prohibition of interest (*usury*), elements of obscurity (*gharar*), and speculative behavior (*maysir*). Islamic finance supports real economic activity and sustainable development; prohibit products with gambling, short selling, and financing activities that damage society [39].

There are 9 Eligible Green Sectors that are targeted in the issuance of green sukuk in Indonesia, namely[40] renewable energy, sustainable management or natural resources, energy efficiency, green tourism (environmentally friendly tourism), resilience to climate change for highly vulnerable areas and sectors/disaster risk reduction, green buildings (environmentally friendly buildings), sustainable transport (transportation that supports sustainability systems), sustainable agriculture (agriculture with sustainability systems), as well as waste to energy and waste management (disposal systems that can be diverted into a good energy and exhaust system).

Until 2022, the Indonesian government has issued 9 green sukuk marketed in global and domestic markets. On the global market, the Indonesian government has issued 5 green sukuk, starting in 2018 with a volume of USD 1.25 billion, in 2019 to 2021 each with a volume of USD 750 million and in 2022 with a volume of USD 1.5 billion. Issuance of green sukuk in 2021 is the longest tenor in the world, namely 30 years. As for the domestic market, the Indonesian government has issued 4 green sukuk namely ST006, ST007, ST008 and ST009 with floating with floor based coupons . In 2019, for the first time the Indonesian government issued green retail sukuk with a volume of IDR 1.4 trillion, in 2020 with a volume of IDR 5.4 trillion, in 2021 with a volume of IDR 5 trillion.

Table 1. Green Sukuk Global Market Issuance

	1 st Issuance	2 st Issuance	3rd Issuance	4 st Issuance	5th Issuance
Issuance date	March 2018	February 2019	June 2020	June 2021	June 2022
Volume	USD 1.25 Bio	USD 750 Mio	USD 750 Mio	USD 750 Mio	USD 1.5 Bio
tenors	5 years	5.5 years	5 years	30 years	-
Yields	3.75%	3.9%	2.3%	3.55%	-

Source: Ministry of Finance, processed by the author

[39] Azhgaliyeva and Kapsalyamova, "Inancing Climate Change Mitigation Using Green Sukuk."

[40] Alifia Risanti, Abdullah Alwyni, and Samofa Nadya, "Prosiding Konferensi Nasional Ekonomi Manajemen Dan Akuntansi (KNEMA) Journal Homepage Peran Green Sukuk Dalam Mewujudkan Pembangunan Yang Berkelanjutan."

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Table 2. Issuance of Green Sukuk Domestick Market

	1 st Issuance (ST006)	2 st Issuance (ST007)	3rd Issuance (ST008)	4 st Issuance (ST009)
Issuance date	November 2019	November 2020	November 2021	November 2022
Volume	IDR 1.4 Trillion	IDR 5.4 Trillion	IDR 5 Trillion	IDR 6.7 Trillion
tenors	2 years	2 years	2 years	2 years
Yields	6.76% (Floating with floors)	5.5% (Floating with floors)	4.8% (Floating with floors)	6.15% (Floating with floors)

Source: Ministry of Finance, processed by the author

Cash Waqf Linked Sukuk in Indonesia

Cash waqf linked sukuk is a fiscal financial innovation that integrates commercial finance, namely sukuk, and social finance, namely cash waqf. According to Ascarya[41], when commercial finance is integrated with social finance, it has great potential in increasing economic, social and environmental development. According to Musari[42], mixed Islamic finance, namely waqf and sukuk, is today a phenomenal financial instrument in the development of modern waqf.

Table 3. Issuance of Cash Waqf Linked Sukuk

	SW001	SWR001	SWR002	SWR003
Issuance date	March 2022	November 2020	June 2021	July 2022
Nominal	IDR 50,849 Billion	IDR 14,912 Billion	IDR 24,141 Billion	na
tenors	5 years	2 years	2 years	2 years
Yields	6.15%	5.5%	5.57%	5.05%
Total Waqif	-	1,041	591	na

Source: Musari[43], processed by the author

The CWLS scheme involves several stakeholders who have their respective roles. Donations from wakifs or investors will be given to Islamic banks as recipient authorities. The Islamic bank authority holder will forward the money to BWI (*nazhir*). Then BWI used the funds to buy Sukuk from the Ministry of Finance as the issuer. The Ministry of Finance uses waqf funds from BWI to finance government projects. State Sukuk Coupons will be received by BWI and forwarded to beneficiaries (*maquf 'alaih*) through BWI's local partner NGOs (Bank Indonesia, 2020). The rate of return (coupon) offered by CWLS is 5%, with a yield of 6.15%. This is a non-tradable instrument and the compensation payment date will be transferred on the 10th of every month.

[41] Ascarya, "The Role of Islamic Social Finance to Improve Well-Being," in *Akselerasi Peran Islamic Social Finance Di Tengah Pandemi*, 2020.

[42] Musari, "Integrating Green Sukuk and Cash Waqf Linked Sukuk, the Blended Islamic Finance of Fiscal Instrument in Indonesia: A Proposed Model for Fighting Climate Change."

[43] Musari.

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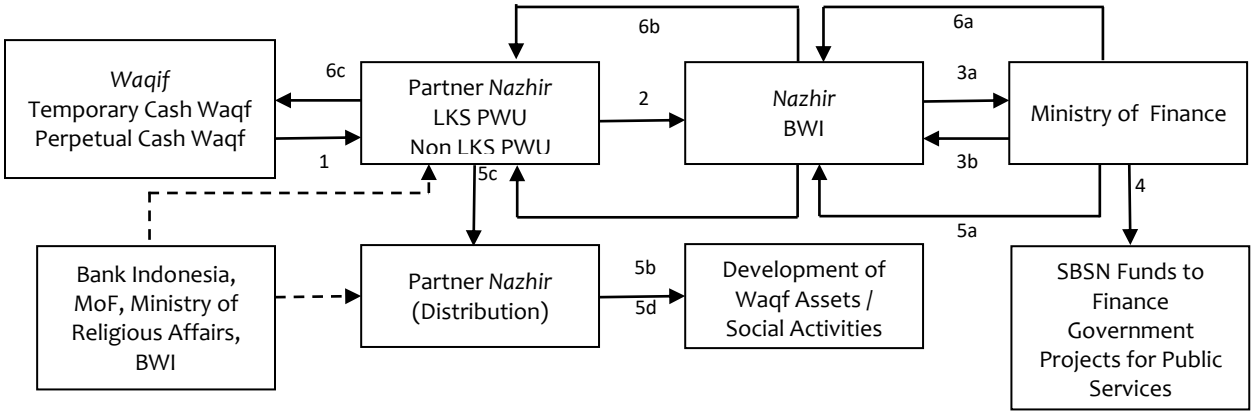
Figure 1. Scheme of *Cash Waqf Linked Sukuk*



Source: Bank Indonesia (2021), processed by the author

Figure 1 explains the cash waqf linked sukuk scheme in more detail, first the wakif hands over waqf funds to Islamic Financial Institutions Receiving Cash Waqf (LKS PWU) or Non-LKS PWU. LKS PWU is an Islamic bank that has legality in receiving cash waqf, while non-LKS PWU is a waqf institution or social institution that has legality in accepting waqf. Waqif is divided into two, namely waqif with temporary cash waqf where the waqf money will return to the waqif after it is due. Whereas for waqf with perpetual cash waqf, the money that has been donated will continue to be donated and will not return to the waqf. After coming from LKS or non-LKS PWU, the funds are distributed to Nazir or to BWI which will then be distributed to the Ministry of Finance to purchase SBSN CWLS. Furthermore, the Ministry of Finance will use the SBSN funds to finance government projects in the field of public services.

When financing is running, of course there are coupons generated. The coupons are paid by the Ministry of Finance to *Nazir* or BWI and redistributed to LKS or non-LKS PWU according to the agreed MoU. From LKS or non-LKS PWU is distributed to *Nazir* partners for the development of waqf assets or social activities. After the maturity date, the Ministry of Finance will pay off the sukuk to *Nazir* or BWI and will forward it to the LKS or non-LKS PWU as a refund of the waqf funds. Furthermore, LKS or non-LKS PWU will return the waqf funds to the waqif with temporary cash waqf.

The role of BI, Ministry of Finance, Ministry of Religion and BWI is to maintain the transparency and governance of waqf funds through the Waqf Core Principal (WCP); waqf information system provider; social institution partners (*nazir* and LAZ) in managing social projects; public education related to sukuk waqf; as well as administration of SBSN CWLS conducted by Bank Indonesia.

Sustainable Agriculture in Indonesia

Sustainable development activities pay attention to sustainable economic, ecological and social elements. Economically sustainable means that a development activity is able to produce economic growth, capital maintenance and efficient use of resources and

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investment. Ecologically sustainable means that these activities must be able to maintain ecosystem integrity, maintain the carrying capacity of the environment and conserve natural resources including *biodiversity*. While socially sustainable, requires that a development activity should be able to create equity in the results of development, social mobility, social cohesion and institutional development.

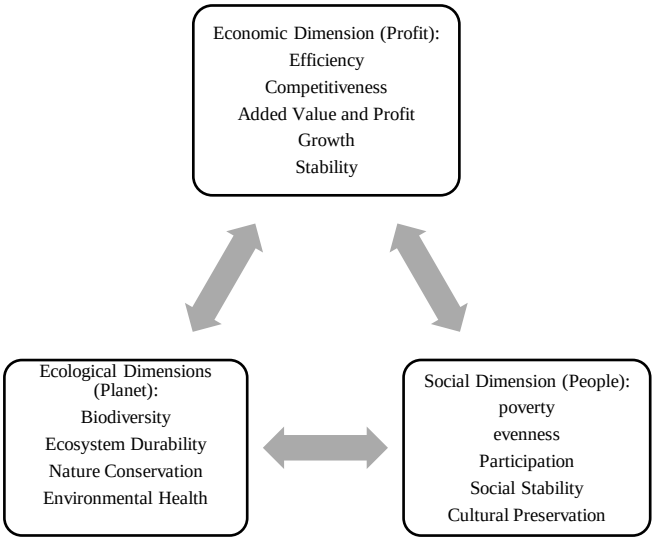

Figure 2. The Triangle Pillars of Sustainable Agriculture
Source: Lagiman[44], processed by the author

With regard to environmental commitments in promoting sustainable agriculture, Lagiman[45] proposes the following: Agricultural development needs to focus on local food, where agricultural cultivation must prioritize local food production. It is necessary to strive for organic food production to guarantee food security for the community; Agricultural development needs to focus on concern for water resources. In the upstream area, it is necessary to develop mixed crop cultivation (*agroforestry*) or agricultural cultivation which does not damage water sources for other socio-economic activities; Agricultural development needs to focus on new and renewable energy. It is necessary to develop various agricultural products that can be used as alternative energy sources; Need real political support for agricultural development. It's time for the executive and legislature to provide real proof of their alignment with farmers and agriculture.

Proposed Green CWLS Model for Sustainable Agriculture Financing

Based on the innovation of fiscal financial instruments, namely Green Sukuk and Cash Waqf Linked Sukuk (CWLS), this study designs the Green CWLS model, namely the CWLS scheme that focuses on financing government projects based on sustainable agriculture while the resulting coupons are used for social activities on a sustainable agricultural basis.

[44] Lagiman, "Pertanian Berkelanjutan: Untuk Kedaulatan Pangan Dan Kesejahteraan Petani."
[45] Lagiman.

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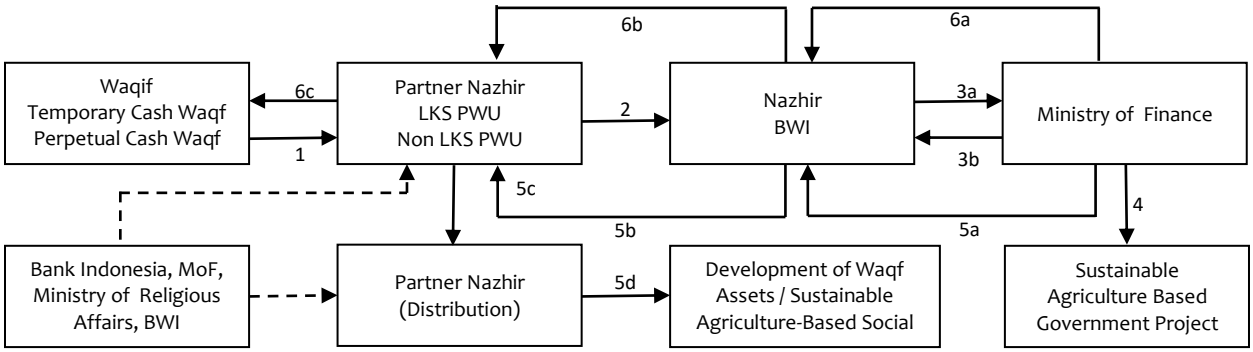
Where sustainable agriculture is one of the sectors included in green sukuk financing. Furthermore, the Green CWLS scheme can be seen in Figure 3 as follows:

Figure 3. Proposed Green -*Cash Waqf Linked Sukuk Scheme*



Source: Processed by the author

The scheme above is the same as the CWLS scheme, but the difference lies in government projects based on sustainable agriculture and the development of waqf assets or social activities that are focused on sustainable agriculture. For example, a government project that can be implemented is organic local food cultivation so that it can guarantee community food security. An example of developing sustainable agriculture-based waqf assets is developing mixed crop cultivation (*agroforestry*) or agricultural cultivation that does not damage water sources for other socio-economic activities.

It is hoped that the implementation of the green CWLS model can be a solution for increasing the welfare of farmers while mitigating the impact of climate change. Because this model supports both economic and environmental sustainability. This is in accordance with research that has been conducted by [46].

The Green CWLS model is a proposed finacial structure for sustainable agriculture financing that combines traditional Islamic finance principles with sustainable development objectives. The model aims to finance small-scale sustainable agriculture projects, particularly in developing countries. The model of this financing is provided through the issuance of sukuk, which are Islamic financial instruments that are similar to bonds. The sukuk are issued by a special purpose vehicle (SPV) and are backed by a portfolio of sustainable agricultural assets, such as livestock or crops. The SPV is managed by a group of stakeholders, including local communities, government agencies and investors.

The model is designed to be collaborative, with stakeholders working together to identify and support sustainable agriculture projects that benefit local communities. It is also waqf-based, which means that part of the profits generated by the sukuk are used for charitable purposes, such as supporting local education or healthcare initiatives. In addition,

[46] Musari, "Integrating Green Sukuk and Cash Waqf Linked Sukuk, the Blended Islamic Finance of Fiscal Instrument in Indonesia: A Proposed Model for Fighting Climate Change."

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the model is livelihood-based, which means that it prioritizes projects that improve the livelihoods of small-scale farmers and their communities. This includes providing training and support to help farmers adopt sustainable farming practices, as well as creating markets for their products.

Overall, the Green CWLS model is designed to provide a sustainable and socially responsible source of financing for small-scale agriculture projects, while also promoting the principles of Islamic finance and contributing to the achievement of the United Nations' Sustainable Development Goals.

Conclusion

Based on the contract used, green sukuk can use *ijarah, murabahah, salam, ishtisna`*, *mudharabah* and *musyarakah* contracts. While CWLS uses a *wakalah* contract. This study designs the Green-Cash Waqf Linked Sukuk (CWLS) model specifically for government project financing and the development of sustainable agriculture-based waqf assets. The Green CWLS scheme is expected to be a new innovation in fiscal financial instruments that integrates green sukuk and CWLS instruments while at the same time integrating commercial finance with social finance. The hope is that this can become a new recommendation for policy makers such as the Ministry of Finance, the Indonesian Waqf Agency (BWI), the Ministry of Religion and Bank Indonesia in advancing fiscal finance while trying to balance economic and environmental impacts which are currently the focus of all countries. In addition, this model also supports the agricultural sector with the aim of improving the welfare of local farmers and ensuring food security and security for the people of Indonesia.

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