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Green Sukuk for Sustainable Development Goals A *Maqāṣid* Perspective: Systematic Review and Meta-Analysis

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Abstract: The environmental crisis is characterized by climate change with an increase in the earth's average temperature of 1.50 - 2.00 Celsius. Climate change can increase the risk of hydrometeorological disasters by 80% of the total disasters that occur in Indonesia. Overcoming the impacts of climate change requires a lot of money. One form of funding instrument to overcome the impact of climate change is green sukuk. Research Objective to critically analyze the trend of green sukuk research in Indonesia. This type of research is a literature review using PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analysis) through four (4) stages, namely identification, screening, eligibility and included. The results showed that the green sukuk trend has dominated in the development of SDGs over the past 3 years. The issuance of green sukuk has contributed to the achievement of the Sustainable Development Goals (SDGs) Framework. From the *maqāṣid al-sharī'ah* framework through the interrelated hierarchy of the system of Islamic law approach, green sukuk used for eligible green projects fall into the urgency of *al-darūriyah*, *al-hājīyah* and *al-taḥsīniyah*. The benefit created is *maqāṣid al-khāṣṣah* which is in line with QS. From these two (2) verses, there is a basic objective of sharia, namely *hifẓ al-bi'ah*. It is necessary to expand *uṣūl al-khamsah* by adding one component of *hifẓ al-bi'ah* (becoming *uṣūl al-sittah*). So that *maqāṣid al-sharī'ah* can accommodate universal benefits in response to increasingly severe environmental damage. Green sukuk has the scope of *hifẓ al-bi'ah* within the framework of *maqāṣid al-sharī'ah* including mitigation (*al-darūriyah*), adaptation (*al-darūriyah*), environment (SDGs) (*al-hājīyah*), social - economic (SDGs) (*al-taḥsīniyah*), and governance (*al-taḥsīniyah*).

Keywords: Green Economy; Islamic Green Finance; Meta-Analysis.

Abstrak: Krisis lingkungan ditandai perubahan iklim (*climate change*) dengan kenaikan suhu rata-rata bumi 1.5⁰ - 2.0⁰ Celcius. Perubahan iklim dapat meningkatkan risiko bencana hidrometeorologi sebesar 80% dari total bencana yang terjadi di Indonesia. Dalam mengatasi dampak perubahan iklim tentunya diperlukan biaya yang tidak sedikit. Salah satu bentuk instrumen pendanaan untuk mengatasi dampak perubahan iklim adalah *green sukuk*. Tujuan Penelitian untuk menganalisis kritis trend penelitian *green sukuk* di Indonesia. Jenis penelitian ini adalah *literature review* menggunakan PRISMA (*Preferred Reporting Items for Systematic Review and Meta-Analyses*) melalui empat (4) tahapan yaitu identifikasi, *screening*, *eligibility* dan *Included*. Hasil penelitian menunjukkan bahwa trend *green sukuk* paling mendominasi dalam pengembangan SDGs selama 3 tahun terakhir. Penerbitan *green sukuk* telah berkontribusi pada pencapaian Sustainable Development Goals (SDGs) Framework. Dari kerangka *maqāṣid al-sharī'ah* melalui pendekatan sistem *interrelated hierarchy of the system of Islamic law* bahwa *green sukuk* yang digunakan untuk *eligible green projects* masuk dalam urgensi *al-darūrīyah*, *al-hājīyah* dan *al-taḥsīnīyah*. Kemaslahatan yang tercipta ialah *maqāṣid al-khāṣṣah* yang sejalan dengan QS. Al-Anbiya` ayat 107 dan QS Al-Baqarah ayat 30. Dari dua (2) ayat tersebut terdapat tujuan dasar syariat yaitu *hifz al-bi'ah*. Maka diperlukan perluasan *uṣūl al-khamsah* dengan menambahkan satu komponen *hifz al-bi'ah* (menjadi *uṣūl al-sittah*). Sehingga *maqāṣid al-sharī'ah* bisa mengakomodasi kemaslahatan universal dalam merespon kerusakan lingkungan yang semakin parah. *Green sukuk* memiliki cakupan *hifz al-bi'ah* dalam kerangka *maqāṣid al-sharī'ah* meliputi mitigasi (*al-darūrīyah*), adaptasi (*al-darūrīyah*), lingkungan (SDGs) (*al-hājīyah*), sosial - ekonomi (SDGs) (*al-taḥsīnīyah*), dan tata kelola (*al-taḥsīnīyah*).

Kata Kunci: Ekonomi Hijau; Keuangan Hijau Islam; Meta-Analisis.

INTRODUCTION

The crisis that is engulfing the lives of the global community is not something that is *by nature*, but is closely related to humans as the sole player in the open laboratory (*nature*). The environmental crisis is characterized by *climate change* with an increase in the earth's average temperature of 1.5⁽⁰⁾- 2.0⁰ Celsius.¹ Climate change triggered by the global warming of greenhouse gases (GHG) has led to psychological impacts in the form of serious concerns about future life.²

¹ Intergovernmental Panel on Climate Change, *Global Warming of 1.5°C: IPCC Special Report on Impacts of Global Warming of 1.5°C above Pre-Industrial Levels in the Context of Strengthening Response to Climate Change, Sustainable Development, and Efforts to Eradicate Poverty*, 1st ed. (Cambridge University Press, 2022), <https://doi.org/10.1017/9781009157940>.

² Woodrow W. Clark, "Smart Green Healthy Communities," in *Climate Preservation in Urban Communities Case Studies* (Elsevier, 2019), 357-414, <https://doi.org/10.1016/B978-0-12-815920-0.00009-5>.

Climate change is believed to increase the risk of hydrometeorological disasters (floods, droughts, forest and land fires, landslides, extreme weather, tidal waves/abrasion) to 80% of the total disasters that occur in Indonesia.³ Given the magnitude of climate change impacts from global warming for Indonesia, the Government has committed to reducing GHG emissions by 29 percent by 2030 and *Net Zero Emission* (NZE) by 2060. To realize Indonesia's commitment in realizing the *Nationally Determined Contribution* (NDC) target in overcoming the impacts of climate change, of course, a lot of money is needed.⁴

Based on the *Third Biennial Update Report* (3rd BUR), the financial needs in 2018-2030 to achieve the GHG emission reduction target in 2030 are estimated to be around USD 285 billion or around IDR 4,218 trillion.⁵ Meanwhile, the average state budget allocation for climate change adaptation and mitigation activities in the period 2018 - 2030 is only around IDR 3,779 trillion, so there is still a large funding gap.⁶

So, to close the financing gap, funding is needed. One form of creative and innovative funding instrument to address the impacts of climate change is *green* sukuk. *Green* sukuk is a green-based sharia instrument, where the proceeds of its issuance are used to fund (*refinancing* and/or *new financing*) *eligible green projects*. Since 2018, the Government of Indonesia has successfully issued *green* sukuk in the global market precisely in March worth USD 1.25 billion. This issuance crowned Indonesia as the first country in the world to issue *green* sukuk.⁷ Details of the *green* sukuk issuance series both for the domestic market and in the international market as in the following table.

³ Minister of Environment and Forestry, *INDONESIA Third Biennial Update Report Under the United Nations Framework Convention on Climate Change* (Jakarta, Indonesia: Directorate General of Climate Change, Ministry of Environment and Forestry, 2021).

⁴ Badan Kebijakan Fiskal Kementerian Keuangan, *Laporan Anggaran Mitigasi dan Adaptasi Perubahan Iklim Tahun 2018-2020* (Jakarta: Badan Kebijakan Fiskal Kementerian Keuangan, 2020).

⁵ Minister of Environment and Forestry, *Indonesia Third Biennial Update Report Under the United Nations Framework Convention on Climate Change*.

⁶ Pusat Kajian Akuntabilitas Keuangan Negara, *Pelaksanaan Pendanaan Anggaran Perubahan Iklim Pada Pemerintah Pusat Dan Daerah* (Jakarta: Pusat Kajian Akuntabilitas Keuangan Negara, Badan Keahlian Sekretariat Jenderal DPR RI, 2022).

⁷ Kementerian Keuangan, *Pendanaan Publik Untuk Pengendalian Perubahan Iklim Indonesia Tahun 2016-2018* (Jakarta: Kementerian Keuangan RI, 2020).

Table 1: Green Sukuk Issuance in the Global Market

Description	1 st Issuance	2 nd Issuance	3 rd Issuance	4 th Issuance	5 th Issuance	6 th Issuance
Issue Date	March 2018	Feb 2019	June 2020	June 2021	June 2022	Nov 2023
Volume	USD 1.25 Bio	USD 750 Mio	USD 750 Mio	USD 750 Mio	USD 1.5 Bio	USD 2.0 Bio
Tenor	5 years	5.5 years	5 years	30 years	10 years	15 years
Yield	3.75%	3.9%	2.3%	3.55%	4.70%	5.40%
Aca	Wakalah	Wakalah	Wakalah	Wakalah	Wakalah	Wakalah

Source: Indonesian Ministry of Finance, 2024

Table 2: Issuance of Green Sukuk in the Market

Description	1 st Issuance (ST006)	2 nd Issuance (ST007)	3 rd Issuance (ST008)	4 th Issuance (ST009)	5 th Issuance (ST010T)	6 th Issuance (ST011T4)
Issue Date	Nov 2019	Nov 2020	Nov 2021	Nov 2022	May 2023	Nov 2023
Volume	IDR 1.4 T	IDR 5.4 T	IDR 5 T	IDR 10 T	IDR 15 T	IDR 20 T
Tenor	2 years	2 years	2 years	2 years	4 years	4 years
Yield	6.75%	5.5%	4.8%	6.15%	6.25%	6.50%
Aca	Wakalah	Wakalah	Wakalah	Wakalah	Wakalah	Wakalah

Source: Indonesian Ministry of Finance, 2024

From tables 1 and 2, specifically *green* sukuk have contributed to the achievement of SDGs targets number 1 (no poverty), 2 (no hunger), 3 (health and well-being), 5 (gender equality), 6 (clean water and sanitation for all), 7 (affordable and clean energy), 8 (decent work and economic growth), 9 (industry, innovation, and infrastructure), 10 (reducing

inequality), 11 (sustainable cities and communities), and 13 (climate action), 14 (water ecosystems), and 15 (terrestrial ecosystems).⁸

Thus *green* sukuk has a major contribution to the achievement of *Sustainable Development Goals* (SDGs). This is reinforced by the research of Musari *et al.*, which states that the impact of *green* sukuk allocation can be felt through the achievement of SDGs in Indonesia.⁹ This statement is reinforced by the results of Khalilurrahman *et al.*'s research, that the purpose of launching *green* sukuk is very important (*darūriyah*) based on the *maqāṣid* framework and in line with *fiqh* rules (*dar`ul mafāsid muqaddamun alā jalbil mashālih*).¹⁰ In addition, there is research from Naili Rohmah, that *green* sukuk in Indonesia has accelerated the realization of a green environment as a manifestation of the realization of *maqāṣid al-syarī`ah* for *hifdž al din*, *hifdž al nafs*, *hifdž al aql*, *hifdž al mal*, *hifdž al nasl*.¹¹

The study of *green* sukuk will at least deal with the issue of investment as an activity and economics as a *science*. Thus, this paper is different from the previous *literature*. So this study aims to analyze the trend of *green* sukuk research in Indonesia. The perspective is expressed in analyzing the issuance of *green* and the impact of the issuance of *green* sukuk. In addition, this paper seeks to provide recommendations related to *maqāṣid* as a basis for development from the aspect of Islamic law.

RESEARCH METHODS

This research is a type of literature research using a systematic review approach using PRISMA (*Preferred Reporting Items for Systematic Reviews and Meta-Analyses*)¹². The PRISMA stages include identification,

⁸ Kementerian Keuangan Republik Indonesia, *Studi Mengenai Green Sukuk Ritel Di Indonesia* (Jakarta: Direktorat Jenderal Pengelolaan Pembiayaan dan Risiko, Kementerian Keuangan, 2021).

⁹ 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>.

¹⁰ Muhammad Khalilurrahman, Eficandra Eficandra, and Dodon Alfiander, "Sharia-Based Customs in Unregistered Marriage Rules (Case Study in Rambatan Village, West Sumatra)," *Al-Istinbath: Jurnal Hukum Islam* 7, no. 2 (2022): 597–613, <https://doi.org/https://doi.org/10.29240/jhi.v7i2.5543>.

¹¹ Naili Rohmah, Abd Rohim, and Sri Herianingrum, "Sovereign Green Sukuk Indonesia Dalam Tinjauan Maqashid Shariah," *Jurnal Penelitian IPTEKS* 5, no. 2 (September 29, 2020): 259–69, <https://doi.org/10.32528/ipteks.v5i2.3666>.

¹² Norfarahzatul Asikin Zakari, Mohamad Zuber Abd. Majid, and Sheerad Sahid, "Systematic Literature Reviews of Marketability and Employability of Graduates," *International Journal of Academic Research in Economics and Management Sciences* 11, no. 1 (February 8, 2022): Pages 157-177, <https://doi.org/10.6007/IJAREMS/v11-i1/12278>.

screening, eligibility, and inclusion. This is used to assist researchers in identifying literature based on research objectives.¹³

Data sources were taken based on articles published in Google Scholar, Elsevier, Scopus, and Science Direct in 2022 - 2024 (the last 3 years) with 2 categories, namely Publication of articles in national journals and international journals. The systematic review process was carried out based on inclusion questions that were crucial in the research objectives, namely: 1) Analyzing *green* sukuk as a funding instrument to address the impacts of climate change; 2) the contribution of *green* sukuk to the achievement of *Sustainable Development Goals* (SDGs); 3) *green* sukuk in Indonesia manifestation of *maqāṣid*. The keywords used in the source search are: *green* sukuk in Indonesia, SDGs, *maqāṣid*.

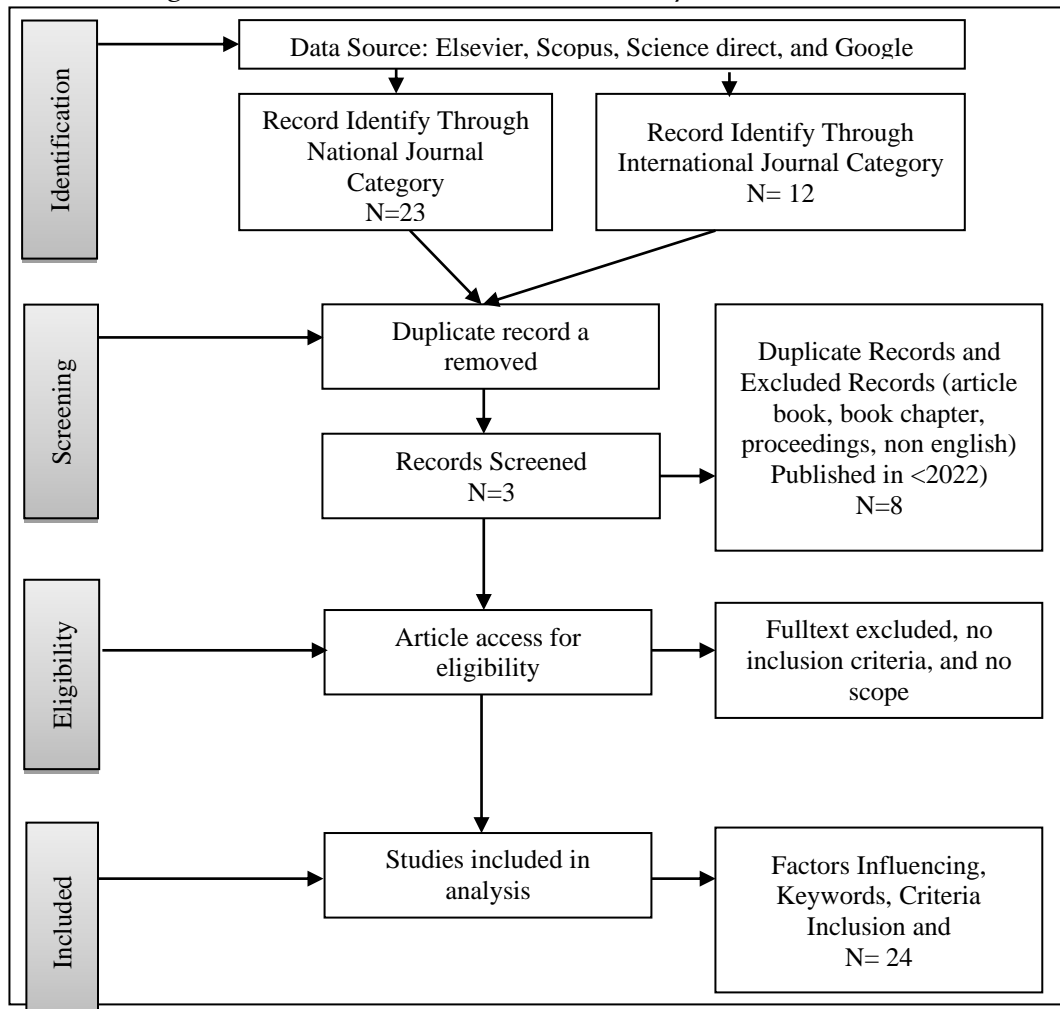


Figure 1. PRISMA Flowchart Adaptation from Zakari¹⁴

¹³ Putu Wuri Handayani, "Systematic Review Dengan PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses)" (Depok: Fakultas Ilmu Komputer Universitas Indonesia, 2017).

DISCUSSION/RESULTS AND DISCUSSION

The results of the systematic review show that green sukuk for SDGs in Indonesia, can be seen based on the literature review, related to the importance of *maqāṣid*. Table 3 presents the findings of the data source publication data taken from 2022 to 2024.

Table 3: PRISMA Results Based on Publication Data Source

Year	N	Identification		Screening	Eligibility	Included
		National Journal Category	International Journal Category	Duplicate Records and Excluded Records (article book, book chapter, proceedings, non-english), Published in <2022)	Article acces for eligibility	Studies included in analysis
2022(1 st)	10	5	5	1	9	9
2023 (2 nd)	15	10	5	3	12	11
2024 (3 rd)	10	8	2	4	6	4
Total	35	23	12	8	27	24

Source: Data processed, 2024

Based on Table 3, the results of PRISMA analysis amounted to 24 articles in the national and international journal categories analyzed based on the research inclusion criteria. *Green* sukuk in Indonesia realizing the SDGs from a *maqāṣid* perspective based on the last 3 years of publication (Figure 2), Processed data based on national and international journal publications (Figure 3), Based on data screening (Figure 4), Included data (Figure 5), and the overall distribution of PRISMA analysis data (Figure 6).

¹⁴ Zakari, Abd. Majid, and Sahid, "Systematic Literature Reviews of Marketability and Employability of Graduates."

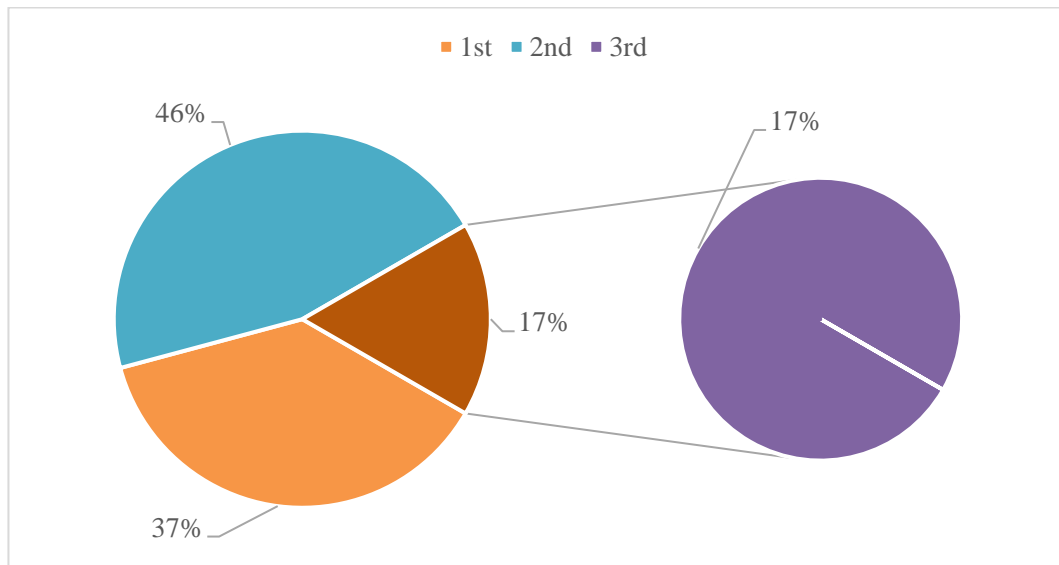


Figure 2.
Green Sukuk Research in Indonesia Based on the Last 3 Years of Publication

Figure 2 shows that the publication trend for the last 3 years has been growing increasingly, this is due to *green* sukuk being excellent in Indonesia as a sharia-based funding instrument. In 2023 there was a significant increase compared to the previous year with details of Year 2022 by 38%, Year 2023 by 46% and Year 2024 by 17%. Furthermore, Figure 2 presents the distribution of publications based on journal categories.

Figure 3.
Based on National and International Journal Publication Categories

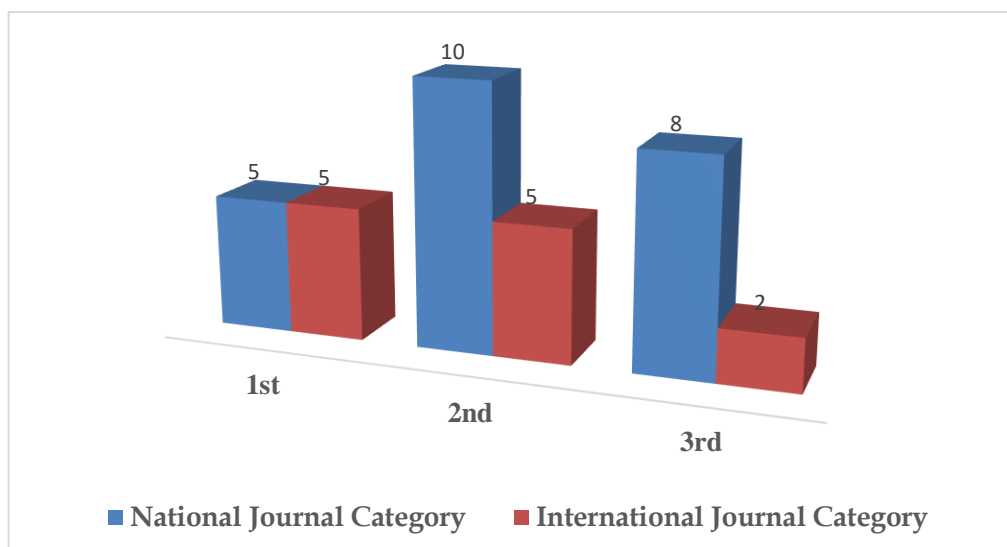


Figure 3 shows that publications in national and international journals are determined based on research inclusion criteria in maintaining the validity and validity of data sources. This publication trend is very influential on the development of research on *green sukuk* in Indonesia. Journal publications are determined on the grounds that the results and quality of research can be accounted for in research ethics.

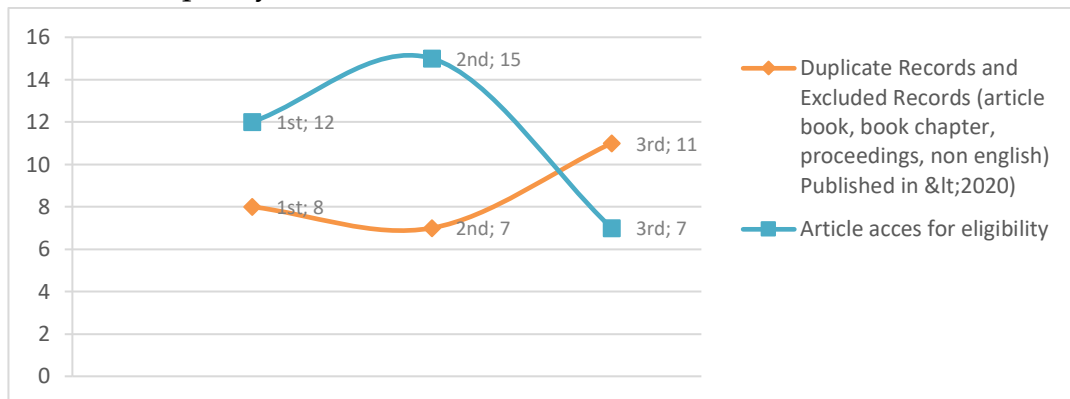


Figure 4. Based on Screening Data

Furthermore, figure 4 based on data screening there are several duplicate publications, the type of publication is not in the journal, and does not match the inclusion of research. Furthermore, data screening is intended to determine the certainty that the data to be analyzed does not have tendencies and data confusion so that the included process is ensured in accordance with the distribution of published data. The following figure 5 shows the included data for the last 3 years.

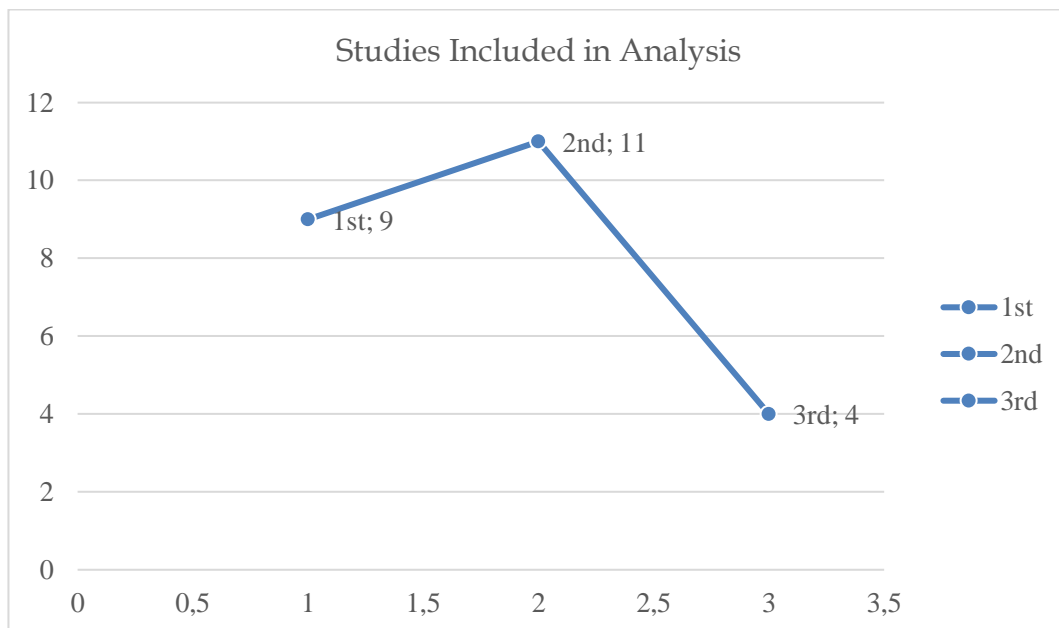


Figure 5. Based on *Included Data*

The research inclusions in figure 5 show data that is in accordance with the research objectives, so that this data determines the results of the PRISMA analysis used. The year 2023 obtained the most inclusion data compared to other years. As much as 29% of the 41 articles analyzed.

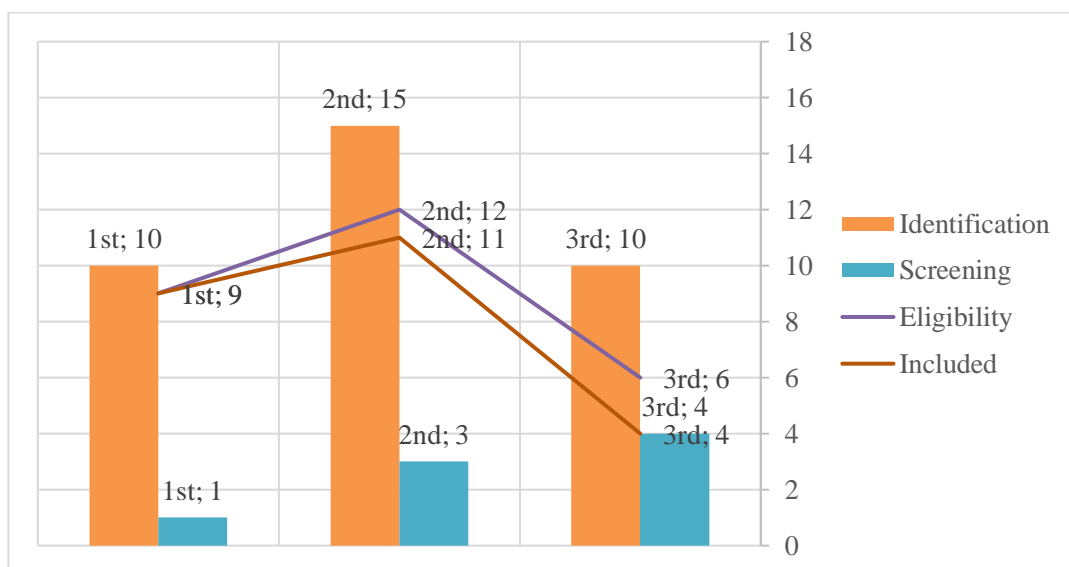


Figure 6. Distribution of PRISMA Analysis Data

The distribution of the PRISMA analysis data (Figure 6) shows the consistency and reliability of the objective data. PRISMA stages have been carried out carefully and based on predetermined research inclusions. Based on the data that from the process of identification, *screening*,

eligibility to inclusion data. Furthermore, the results of each of the 24 published articles are presented in table 4. In explaining the factors that influence it as well as *keywords* and what discussions are generated in the article *review*. Furthermore, journals that have been analyzed and *reviewed* can determine the trend of *green* sukuk issues in Indonesia that are dominant in realizing *maqāsid-based* SDGs.

Table 4: Data Included Based on PRISMA Analysis

No	Author	Year	Challenge	Keyword/Criteria Inclusion/Remax
1	Endri Endri, Bella Tahya Hania, Amir Ma'ruf (2022)	2022	Issue corporate green sukuk	Corporate green Sukuk issuance for sustainable financing in Indonesia
2	Angrahita Grahesti, Dzul Fahma Nafii'ah, Elyana Pramuningtyas (2022)	2022	Green investment	Green Sukuk: Sharia-based Green Investment in Realizing Resilience to Climate Change in Indonesia
3	Donna Vanny Araminta, Qudziyah Qudziyah, Yan Putra Timur (2022)	2022	SDGs green sukuk	The Role of Green Sukuk In Realizing The Sustainable Development Goals 2030 Agenda
4	Khalilurrahman Khalilurrahman, Husni Mubarrak (2022)	2022	Maqashid approach	Retail Green Sukuk in Indonesia: Toward A Maqashid Approach
5	Maulana Prahaji, Tika Arundina (2022)	2022	Environmental projects	Preferences of Green Sukuk in Environmental Projects (Case Study in Indonesian Power Industry)
6	Achmad Affandi, Nurma Khusna Khanifa (2022)	2022	SDGs	Asset Concept: Green Sukuk Profit Determination Triggers Impact Investment SDGs
7	Tiza Yaniza, Rachmawati, Devi Cintiya Ramadhanti, Mahesa Aryo Bimo (2022)	2022	Regulation of green sukuk issuance in Indonesia	Legal Basis for Issuing Green Sukuk in Indonesia

No	Author	Year	Challenge	Keyword/Criteria Inclusion/Remax
8	A Grahesti, DF Nafii'ah (2022)	2022	Shariah-based green investment	Green Sukuk: Sharia-based Green Investment in Realizing Resilience to Climate Change in Indonesia
9	Fitrah, Ramdansyah, and Andri Soemitra (2022)	2022	SDGs green sukuk	Green Sukuk for Sustainable Development Goals in Indonesia: A Literature Study
10	Musari, K., Hidayat, S.E. (2023)	2023	Sukuk in maqasid al-shariah and SDGs	The Role of Green Sukuk in Maqasid Al-Shariah and SDGs: Evidence from Indonesia
11	Aditya Prastian Supriyadi, Dwi Fidhayanti, Ramadhita, Mohd Shahid bin Mohd Noh (2023)	2023	Frameworks for sustainable Islamic bonds	Green Sukuk in Indonesia: Unraveling Legal Frameworks for Sustainable Islamic Bonds
12	Khairanisa Alhaq, Tita Nursyamsiah, Marhamah Muthohharoh (2023)	2023	Green sukuk SWOT approach	Green Sukuk Development Strategy in Indonesia: ANP-SWOT Approach
13	Marissa Malahayati, Lukytawati Anggraeni (2023)	2023	Green economy	Potential of and challenges to the green Sukuk for financing the green economic recovery in Indonesia
14	Ilyas Adhi Purba, Binti Mutafarida (2023)	2023	Kh. Ali Yafie	The Existence of Green Sukuk in Indonesia: An Analysis of Kh. Ali Yafie
15	Nur Ika Mauliyah, Hikmatul Hasanah, Miftahul Hasanah (2023)	2023	Legal aspects of green sukuk	Potential Development of Green Sukuk and Legal Aspects in Indonesia
16	Siti Mutmainnah, Muhammad	2023	Green sukuk and climate change	Utilizing Green Sukuk in Facing Climate Change in Indonesia

No	Author	Year	Challenge	Keyword/Criteria Inclusion/Remax
	Ryan Romadhon (2023)			
17	Lim Hendra, Rimi Gusliana Mais, Putri Rizky Cahyani (2023)	2023	Green sukuk potential	Analysis of Green Sukuk Potential Against Green Infrastructure in Bekasi City
18	Azhar Alam, Ririn Tri Ratnasari, Isnani Latifathul Jannah, Afief El Ashfahany (2023)	2023	Islamic green financing	Development and evaluation of Islamic green financing: A systematic review of green sukuk
19	Zalfa Zahirah Hiljannah, Fadlan Desfiansyah, Anggi Tryfinza Putra, Oka Raditya Sarjono (2023)	2023	Green sukuk for sustainable national development	The Role of Green Sukuk for Sustainable National Development: The Role of Green Sukuk for Sustainable National Development
20	Mahmud Yusuf, Fathurrahman Azhari, Fahmi Al Amruzi, Muhammad Maulidi Ihsan Wahidi, Sri Anafarhanah (2023)	2023	Green economy	Green Economy Financing According to Fiqh Al-Biah as Part of Maqashid Sharia
21	Eny Latifah (2024)	2024	Fiqh al-bi`ah's role in the green and blue economy concepts	Fiqh al-Bi'ah and the Concept of Green and Blue Economy for Achieving Sustainable Development in the Context of SDGs
22	Muhammad Arsyi (2024)	2024	Maqasid shariah	Maqasid Shariah Implementation on Sukuk Analysis
23	Nashr Akbar, Wiku Suryomurti, Salina Kassim	2024	Investment green sukuk	Investment Behavior in Retail Green Sukuk: The Case of Indonesia

No	Author	Year	Challenge	Keyword/Criteria Inclusion/Remax
	(2024)			
24	Muslim Scholar, Amrie Firmansyah (2024)	2024	Green bonds in Indonesia	Development of Green Bonds in Indonesia: Government Efforts to Realize Sustainable Finance

Source: Researcher Data (processed), 2024

Based on table 4, it shows that *green sukuk* is included in the *Islamic green finance* category. *Islamic green finance* uses Islamic values in green financing investments in order to realize green and sustainable development based on ethics and morals for human benefit.¹⁵ There are several reasons why *Islamic green finance* is considered important, including *humanity. universality of ethical norms, Indonesian-ness, and Islamic-ness*.¹⁶

Therefore, it is known that *green sukuk* are issued with the aim of supporting the government's commitment to address *climate change* issues by supporting the reduction of greenhouse gas emissions. In addition, the proceeds from the sale of *green sukuk* are used to finance environmentally friendly projects that are in accordance with the *SDGs Framework*. The following projects have been developed by Indonesia through *green sukuk* (2018 - 2022):¹⁷

Table 5: Projected Environmental and Social Impacts

Projected Environmental	Cumulative Breakdown per Sector	Social Impacts
Renewable Energy	4.92%	<ul style="list-style-type: none"> Contribute towards annual GHG emission reduction of 130,316.39 tonnes CO₂e from the installations of rooftop solar PV and aids to sea navigation devices. Provide energy efficiency, streamline shipping navigation, and improve shipping safety

¹⁵ Azhar Alam et al., "Development and Evaluation of Islamic Green Financing: A Systematic Review of Green Sukuk," *Environmental Economics* 14, no. 1 (May 23, 2023): 61–72, [https://doi.org/10.21511/ee.14\(1\).2023.06](https://doi.org/10.21511/ee.14(1).2023.06).

¹⁶ Ministry of Finance of the Republic of Indonesia, *BULLETIN SSN Sahabat Sukuk Negara, Green and Sustainable Financing for Indonesia's Future*, V, vol. 2 (Jakarta: Ministry of Finance of the Republic of Indonesia, 2022).

¹⁷ Ministry of Finance Republic of Indonesia, *Green Sukuk Allocation and Impact Report 2023* (Jakarta: Ministry of Finance, Republic of Indonesia, 2023).

Projected Environmental		Cumulative Breakdown per Sector	Social Impacts
Resilience to Climate Change	to	28.09%	<ul style="list-style-type: none"> Projected to improve the service capacity discharge of raw water structures and infrastructure to achieve the national standardized target of 4.10 m³/s from the construction/rehabilitation of 685 raw water units and 50 km groundwater irrigation network, benefiting areas prone to flood and drought. Reduce the vulnerability of urban and coastal areas prone to floodings from the development and rehabilitation of 233 km of riverine flood control and 98 km of coastal protection structures in the serviced provinces.
Sustainable Transport		32.39%	<ul style="list-style-type: none"> The railway infrastructure and facility development has yet to significantly contribute towards GHG emission reduction due to the declining trend in public transportation use as resulted from social restriction policies as well as the shift in lifestyle and movement pattern during the COVID-19 pandemic.
Sustainable Management of Natural Resources on Land		0.01%	<ul style="list-style-type: none"> Contribute towards ecosystem restoration through forest and land rehabilitation in North Sulawesi Province, particularly the Likupang special economic zone.
Green Building		0.22%	<ul style="list-style-type: none"> Set a green building model through the construction of university facilities and infrastructure in accordance with the building technical standards and green building principles.
Waste to Energy and Waste Management	to and	4.58%	<ul style="list-style-type: none"> Improve municipal solid waste management, projected to benefit a total of 3.7 million people.
Sustainable Water and Wastewater		25.00%	<ul style="list-style-type: none"> Enhance the service capacity of water supply for ± 284,628 hectares of agricultural areas that are prone to flood and drought through the development/rehabilitation of

Projected Environmental	Cumulative Breakdown per Sector	Social Impacts
Management		<p>33 units of irrigation areas along with 1,158 km of surface water/swamp/coastal pond irrigation networks;</p> <ul style="list-style-type: none"> • Enhance the reservoir storage capacity of natural and artificial water storages at \pm 4,482 million m³ through the development and rehabilitation of 447 smaller and larger dams, 18 lakes and 119 rain-fed water storage (embung); • Enhance the drinking water treatment capacity of the service discharged at about 150 - 1100 litres per second, and the wastewater treatment capacity through the construction/rehabilitation of the water treatment plants and house connections.

Source: Ministry of Finance Republic of Indonesia¹⁸

If you look at table 5, there is an effect of *green* sukuk in realizing the SDGs *Framework*. Indirectly, this effect creates benefits for humans. This benefit does not only aim for the present (in the world), but also for the future. Therefore, the Government's commitment to reduce GHG emissions by 29% in 2030 and NZE in 2060 is considered appropriate. Moreover, if the proceeds from *green* sukuk are used for *eligible green projects*, it is in line with the concept of benefit (*al-darūrīyah*, *al-hājīyah* and *al-tahsīnīyah*) which occupies an equally important position.¹⁹ Therefore, *maqāṣid al-sharī'ah* through the *interrelated hierarchy of the system of Islamic law* approach has a connection between values.²⁰

Then the scope of these benefits falls into the category of *maqāṣid al-khāṣṣah*. Its extension seeks to expand the scope of *al-kulliyyāt al-khams* related to 1) protecting religion (*hifẓ al-dīn*); (2) protecting the soul (*hifẓ al-nafs*); (3) protecting the mind (*hifẓ al-ʿaql*); (4) protecting offspring (*hifẓ al-nasl*); (5) protecting property (*hifẓ al-māl*).²¹ The goal is none other than the

¹⁸ Ministry of Finance Republic of Indonesia.

¹⁹ Azhar Affandi, Sarwani, and Akhmad Sobarna, "Optimization of MSMEs Empowerment in Facing Competition in the Global Market During the COVID-19 Pandemic Time," *Systematic Reviews in Pharmacy* 11, no. 11 (2020): 1507–15, <https://doi.org/10.31838/srp.2020.11.213>.

²⁰ Dikson T. Yasin, "Ijtihad Teori Sistem Jasser Audah," *TASAMUH: Jurnal Studi Islam* 12, no. 2 (September 14, 2020): 391–406, <https://doi.org/10.47945/tasamuh.v12i2.247>.

²¹ Muhammad Arsyi, "Maqasid Shariah Implementation on Sukuk Analysis," *Journal of Islamic Economics Literatures* 4, no. 2 (January 2, 2024), <https://doi.org/10.58968/jiel.v4i2.338>.

benefit designed to reach a comprehensive radius for all levels of society regardless of groups and groups. This expansion of the scope of *uṣūl al-khamsah* essentially makes *maqāṣid al-sharī'ah* play a broader role in various lines of life.

This expansion gave rise to the concept of *hifẓ al-bi'ah* to respond to several environmental issues from a more effective perspective. Implementation of *hifẓ al-bi'ah* in Indonesia through the issuance of *green sukuk* as an action to mitigate and adapt to climate change. So *maqāṣid al-sharī'ah* must be able to accommodate universal benefits related to *hifẓ al-bi'ah* for the sake of survival, especially *environmental sustainability*. Thus *maqāṣid* can realize *al-maṣlaḥah al-mu'tabarāh* as the character of Islam which is flexible, rational, transcendental, and *rahmatan lil `alamin*.²²

The results of the *systematic reviews and meta-analysis* research are that the issuance of *green sukuk* is used to finance green projects and is realized in table 3 (*projected environmental and social impacts*). Indonesia has a high commitment to the achievement of the SDGs. Even the Government has linked and integrated the SDGs targets and indicators into the National Medium-Term Development Plan (RPJMN) to ensure the implementation of the SDGs in Indonesia. As mentioned in the previous section of this paper, the results of the *green sukuk* issuance have contributed to the achievement of 14 SDGs including reducing poverty, eliminating hunger, health and well-being, gender equality, clean water and sanitation, carbonless energy, good jobs and economic growth, industry along with innovation and infrastructure, no inequality, sustainable cities, achieving consumption and production, climate change), maintenance of marine life, and life on land.

From the *maqāṣid al-sharī'ah* framework through the *interrelated hierarchy of the system of Islamic law* approach, *green sukuk* used for *eligible green projects* fall under the urgency of *al-ḍarūriyah*, *al-ḥājīyah* and *al-taḥsīnīyah*. The concept of this benefit does not have a hierarchy but each other has an interrelationship between values, as in the following figure 7

²² Mahmud Yusuf et al., "Green Economy Financing According to Fiqh Al-Biah as Part of Maqashid Sharia," *Pena Justisia: Media Komunikasi Dan Kajian Hukum* 21, no. 1 (January 8, 2023), <https://doi.org/10.31941/pj.v21i1.2725>.

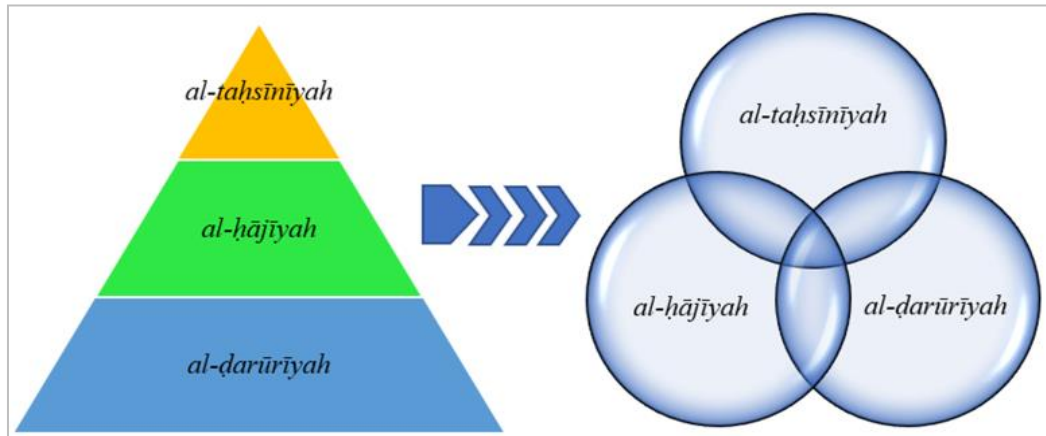


Figure 7. Interrelated Hierarchy Concept-Based Categorizations

From figure 7 above, the benefit created is *maqāṣid al-khāṣṣah*. This is in line with the Qur'an which advocates environmental sustainability. In fact, the essence of the message of Rasullullah in Q.S. Al-Anbiya` verse 107 is compassion for the universe.

وَمَا أَرْسَلْنَاكَ إِلَّا رَحْمَةً لِّلْعَالَمِينَ ١٠٧

Meaning: We have not sent you (Muhammad), except as a mercy for all the worlds.²³

Meanwhile, in Q.S Al-Baqarah verse 30, humans are appointed as *khalīfah* to carry out the mandate of caring for and preserving the earth as a gift from Allah.

وَإِذْ قَالَ رَبُّكَ لِلْمَلٰٓئِكَةِ اِنِّیْ جَاعِلٌ فِی الْاَرْضِ خَلِیْفَةً ۚ قَالُوْۤا اَتَجْعَلُ فِیْهَا مَنْ یُّفْسِدُ فِیْهَا
وِیْسِفُکَ الدِّمَآءَ وَنَحْنُ نُسَبِّحُ بِحَمْدِکَ وَنُقَدِّسُ لَکَ ۚ قَالَ اِنِّیْۤ اَعْلَمُ مَا لَا تَعْلَمُوْنَ ۝ ٣٠

Meaning: (Remember) when your Lord said to the angels, "I want to make a caliph on earth." They said, "Do you intend to make therein a man of corruption and bloodshed, while we praise you and sanctify your name?" He said, "I know what you do not know."²⁴

From this verse, there is a basic objective of sharia, namely *hifẓ al-bi`ah*. This goal can be achieved through the preservation of nature and care for the environment. Therefore, it is necessary to expand *uṣūl al-khamsah*, meaning not only the issues of *hifẓ al-dīn*, *hifẓ al-nafs*, *hifẓ al-`aql*,

²³ Kementerian Agama RI, *Al-Qur'an Dan Terjemah*, 7th ed. (Jakarta: Pustaka Al-Kautsar, 2020).

²⁴ Kementerian Agama RI.

hifẓ al-nasl, *hifẓ al-māl* but by adding one component of *hifẓ al-bi`ah* (becoming *uṣūl al-sittah*). The argument developed by the author is that *uṣūl al-khamsah* cannot be implemented properly if *hifẓ al-bi`ah* is ignored. The expansion of this concept uses the rule of *uṣūl fiqh: mā layatimmu al-wajib illa bihi fahua wajib*.²⁵ Therefore, this expansion makes *maqāṣid al-sharī`ah* more able to accommodate universal benefits in response to increasingly severe environmental damage. In my opinion, *green sukuk* has the scope of *hifẓ al-bi`ah* within the framework of *maqāṣid al-sharī`ah* including 1) mitigation as an indicator of *al-ḍarūrīyah*, 2) adaptation as an indicator of *al-ḍarūrīyah*, 3) environment (SDGs) as an indicator of *al-ḥājīyah*, 4) social - economy (SDGs) as an indicator of *al-taḥsīnīyah*, and 5) governance as an indicator of *al-taḥsīnīyah*.

CONCLUSION

The findings show that the *green sukuk* trend has dominated in the development of SDGs over the past 3 years. The issuance of *green sukuk* has contributed to the achievement of the SDGs *Framework* including the achievement of SDGs points number 1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, and 15. From the *maqāṣid al-sharī`ah* framework through the *interrelated hierarchy of the system of Islamic law* approach, *green sukuk* used for eligible *green projects* fall into the urgency of *al-ḍarūrīyah*, *al-ḥājīyah* and *al-taḥsīnīyah*. The benefit created is *maqāṣid al-khāṣṣah* which is in line with Q.S. Al-Anbiya` verse 107 and QS Al-Baqarah verse 30. From these two (2) verses there is a basic objective of sharia, namely *hifẓ al-bi`ah*. Therefore, it is necessary to expand *uṣūl al-khamsah*, meaning not only the issue of *hifẓ al-dīn*, *hifẓ al-naḥs*, *hifẓ al-`aql*, *hifẓ al-nasl*, *hifẓ al-māl* but by adding one component of *hifẓ al-bi`ah* (becoming *uṣūl al-sittah*). The argument developed is that *uṣūl al-khamsah* cannot be implemented properly if *hifẓ al-bi`ah* is ignored. This expansion of the concept uses the rule of *uṣūl fiqh: mā layatimmu al-wajib illa bihi fahua wajib*. Therefore, this expansion makes *maqāṣid al-sharī`ah* more able to accommodate universal benefits in response to the increasingly severe environmental damage. *Green sukuk* has the scope of *hifẓ al-bi`ah* within the framework of *maqāṣid al-sharī`ah* including; 1) mitigation as an indicator of *al-ḍarūrīyah*; 2) adaptation as an indicator of *al-ḍarūrīyah*; 3) environment (SDGs) as an indicator of *al-*

²⁵ Ahmad Thohari, "Epistemologi Fikih Lingkungan: Revitalisasi Konsep Masalahah," *Az Zarka': Jurnal Hukum Bisnis Islam* 5, no. 2 (Desember 2013): 145-61.

ḥājīyah; 4) social economy (SDGs) as an indicator of *al-taḥsīnīyah*, and; 5) governance as an indicator of *al-taḥsīnīyah*.

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