

Waqf on Environmental Issue: A Systematic Review

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The purpose of this research is to identify and map research related to the development of research trends in Waqf and the Environment. The data analyzed are articles published by leading journals from 2006 to 2021. The number of articles analyzed is 30 articles indexed by Scopus. The research methods are descriptive statistical methods and bibliometric analysis. The results of the study show that the number of articles discussing the theme of Waqf and Environment shows an increasing trend starting from 2015. The popular keywords used are waqf, cash waqf, and environment. The most prolific writers are Abdul Majid N.H, Denan Z, and Ismail S, while the country with the most popular and the most number of writers in Malaysia. This research provides information for researchers who focus on research in the field of Waqf and Environment.

Keywords: Waqf, Environment, Systematic review

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2.1.

INTRODUCTION

According to the [Climate Transparency Report \(2021\)](#), global warming will reach or exceed 1.5°C in the early 2030s. In 2021 the G20 members will experience firsthand the climate impacts of global warming, fires, floods, droughts, cold waves, and extreme heat. The chronic impact of extreme weather will have a high impact on the economy, which can be exacerbated by the underlying inequalities of poor infrastructure funding and including COVID-19. Between 1999 and 2018 nearly 500,000 deaths and nearly \$3.5 trillion in economic costs due to climate impacted the entire world. If the forecast in early 2030 occurs, the G20 countries will be affected by weather and climate that is greater than average. Australia, Brazil, France, Italy, Mexico, and Turkey are likely to face severe water scarcity or drought. Australia, India, Mexico, Saudi Arabia, and South Africa will have many more days with very high temperatures. Most of the G20 members could also experience agricultural impacts, such as longer harvest times, reduced rainfall, and increased heat damage to crops, thereby causing local and global food insecurity.

Departing from the problem of infrastructure funding, Islamic economics offers alternative funding that has been tested and trusted for thousands of years, namely through waqf. The use of waqf covers various fields, not only economic, educational, social, and cultural but also the environment. History reveals waqf was used as a driving force, tree planting. Several studies have revealed that environmental protection was a small part of the use of waqf funds in the past ([Al-Anzi and AL-Duaij, 2004](#)). The Qur'an provides an ecological model related to the general welfare of mankind and the environment ([Choudhury 2010](#)).

According to Law No. 41 of 2004, waqf is a legal act of wakif to separate or surrender part of his property to be used forever or for a certain period by the interests of worship or public welfare according to sharia. Waqf assets have long-lasting immortality or long-term benefits. This means that the concept of the immutability of waqf property is present as long as the property is still there. As long as the waqf operates and benefits the recipient, the reward will continue to flow even though the wakif (waqf person) dies.

Environmental protection is a shared responsibility of all human beings regardless of race, religion, or nation. The report released by the IPCC ([The Intergovernmental Panel on Climate Change](#)) (2021) states that in the next two decades it is estimated that the Earth will experience a temperature increase of 1.5°C or

even more. The increase in greenhouse gas (GHG) concentrations since 1750 is largely due to human activities. The use of non-renewable fossil fuels, industrial, agricultural, and household activities have an impact on increasing greenhouse gas concentrations ([EPA, 2021](#)). So it is important to examine the role of Islam in environmental protection. Waqf is one of philanthropy has potential and can be used as an important instrument for environmental protection

This study aims to identify and map research related to the trend development of articles with the theme of Waqf and Environment. The analyzed data consisted of 30 research articles indexed by Scopus from 2006 to 2021. The data will be processed and analyzed using VOSviewer software to find out the development bibliometric map related to Waqf and Environment.

LITERATURE REVIEW

According to [Alam \(2010\)](#), Waqf plays an important role in Islamic civilization. Over the last three decades, there have been significant contemporary intellectual endeavors as well as policy-driven institutional efforts around the world to revive this important institution of Islamic economics. In practice, waqf institutions mobilize waqf funds and collect funds to establish businesses and investments according to the results. Where the income from business and investment will be used to provide emergency assistance, food, health, education, and other assistance to underprivileged segments of society and community empowerment.

According to Law No. 32 of 2009, the environment is a unitary space with all objects, forces, conditions, and living things, including humans and their behavior, which affect nature itself, the continuity of life, and the welfare of humans and other creatures (Article 1). Sustainable development is a planned effort to integrate environmental, social, and economic aspects into a development strategy to ensure the integrity of the environment as well as the safety, capabilities, welfare, and quality of life of present and future generations (Article 2).

According to [Budiman \(2011\)](#), environmental waqf or waqf for protection is one of the Islamic laws that can be optimized where waqf is a voluntary action from the community. The relationship between waqf and the environment, which is the same as the principle of environmental sustainability, waqf has the characteristics of immortality, cannot be withdrawn, and cannot be revoked, which means that something that is waqf for example for reforestation, management of

watershed areas, or private conservation, then the waqf remains forever. There is no doubt about the obligation of mankind to carry out obligations in a continuous effort to protect the environment. Hadith Al-Bukhari, Prophet Muhammad said: "If the Day of Judgment befalls one of you, while he has seeds, let him plant them."

Waqf and SDGs are related, according to [Ali \(2020\)](#) waqf has a role in the conservation and the achievement of SDGs. Through a productive waqf forest scheme that supports several key SDGs, such as reducing poverty and hunger, maintaining climate change, maintaining a healthy life, conserving biodiversity and water supply, as well as promoting economic growth, consumption, and sustainable production.

The approach to solving environmental problems (desertification and deforestation) according to [Abdullahi \(2019\)](#) is categorized as follows: (1) In the public sector where the role of government is to use tax proceeds and statutory allocations to address deforestation, government-sponsored financial institutions such as the Islamic Development Bank (IDB), and other national and multinational financial companies; (2) The voluntary sector, namely waqf institutions through private donations from people; (3) The private sector where Islamic companies such as Islamic banks, takaful institutions, capital market companies, and other sharia-compliant organizations.

[Yaakob et al. \(2017\)](#) argue that waqf is an alternative mechanism to protect and conserve forests. The study proposes to allocate certain land in the name of waqf so that the state can improve the state of the forests that provide water catchment areas, flood control, and also biodiversity. The use of various waqf funds to protect the environment is demonstrated in Kuwait, Indonesia, Singapore, and also the UK.

Research conducted by [Abdullahi \(2019\)](#) reveals that the long-term benefits of reforesting OIC member countries are enormous, where the amount of land reclaimed from deserts and used productively will in turn

have a direct effect on the country's economy and the entire climate of the region and the world. Then the next effort is that the OIC countries must establish special banks to provide plantation finance and reduce desertification, the establishment of cooperatives and NGOs must lead to reforestation activities. Finally, the government must create awareness among the general public through social media, radio, television, and other forms of media.

METHODOLOGY

This research was conducted using Scopus indexed article publication data with the theme Waqf and Environment. Data was collected by entering the keywords Waqf and Environment and the results displayed 30 published articles. Data from these topics were then analyzed using Microsoft Excel 2016. As for the analysis of the trend of publication developments, it was carried out with the help of VOSviewer software

The computer program that was introduced was called VOSviewer. VOSviewer is a program developed for creating and viewing bibliometric maps. This program is available free of charge to the bibliometric research community (see www.vosviewer.com). VOSviewer can create author maps or journals based on co-citation data or create keyword maps based on shared incident data. The program offers a viewer that allows bibliometric maps to be examined in detail. Studies on Islamic economics and finance using bibliometric has been done by researchers for the example [Antonio et al., \(2020\)](#), [Rusydiana et al., \(2020\)](#) and also [Taqi et al., \(2021\)](#).

To build the map, VOSviewer uses the VOS mapping technique, where VOS stands for visualization similarity. For previous studies where the VOS mapping technique was used VOSviewer can display maps built using the appropriate mapping technique. Therefore, this program can be used to display maps built using the VOS mapping technique and display maps built using multidimensional scaling techniques.

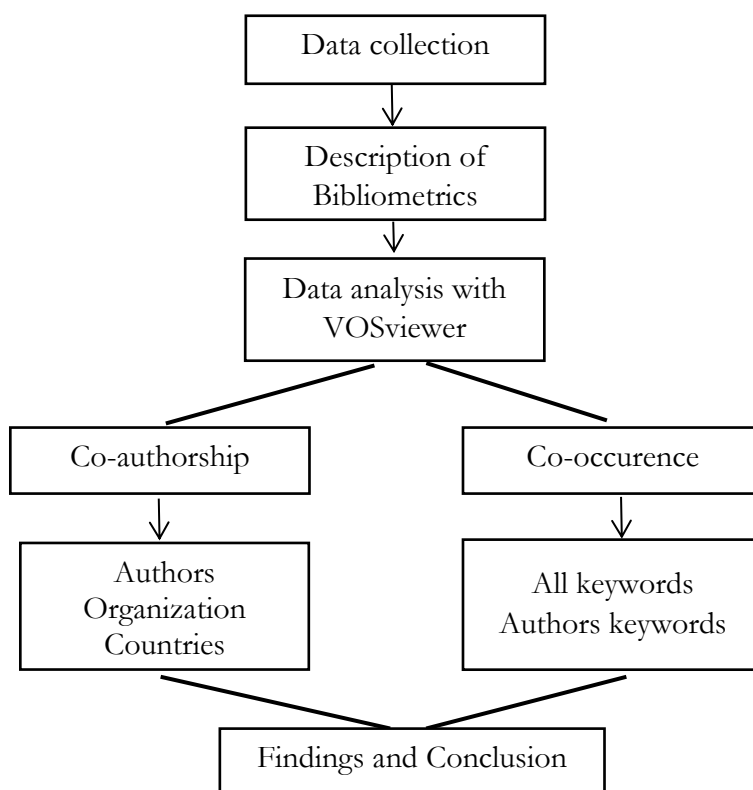


Figure 1: VOSviewer Data Analysis Flow

RESULTS AND ANALYSIS

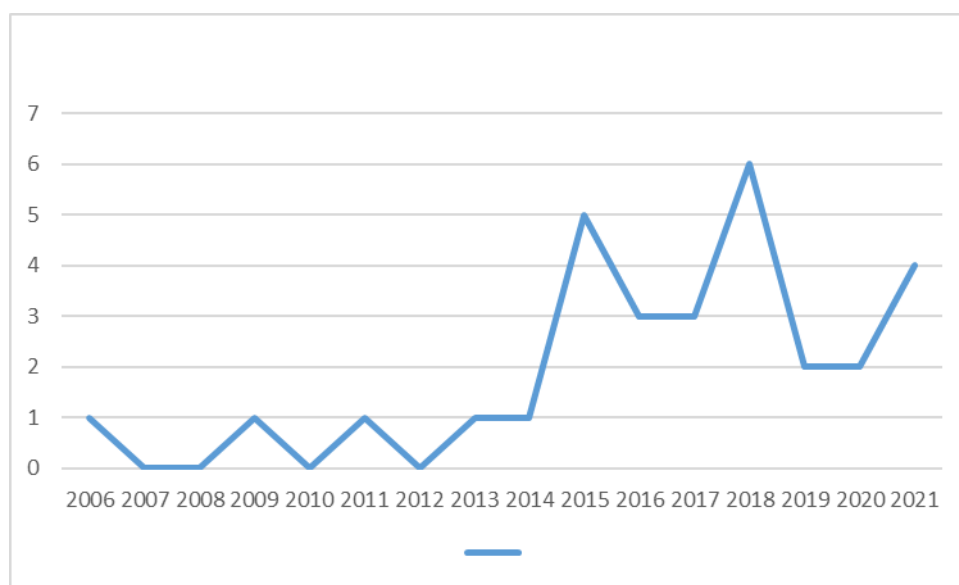


Figure 2: Development of Waqf and Environment Journal

Graph 1 Development of Waqf and Environment Journal describes the number of publications on Waqf and Environment-the papers. There are 30 published articles from 2006 to 2021. The articles taken are articles indexed by Scopus. The development of these articles

has increased from 2015. The number of articles from 2006 was stagnant until 2014 and then Waqf and Environment articles began to be widely published from 2015 to 2021.

Table 1: Year and Total Publication of Waqf and Environment Articles

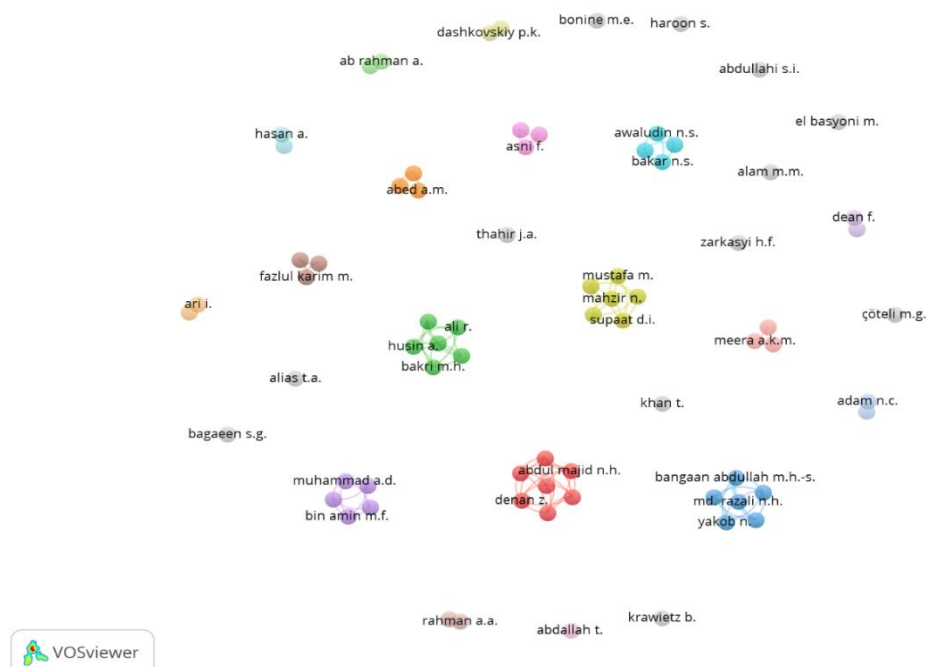
Year	Total Publications
2006	1
2009	1
2011	1
2013	1
2014	1
2015	5
2016	3
2017	3
2018	6
2019	2
2020	2
2021	4
Total	30

Based on Graph 1. Development of Waqf and Environment Journal and Table 1. Year and Total Publication of Waqf and Environment Articles, waqf, and environment articles were published in 2006. The number of articles began to increase in 2015. The trend of increasing the number of articles occurred from 2015 to 2021. The data also shows that waqf and environment

articles were published the most. in 2018 with a total of 6 articles. Then since 2019 it has decreased but not significantly. Until the end of 2021, the number of waqf and environment articles indexed by Scopus is 4 articles.

Co-Authorship Analysis

1. Co-Authorship Analysis

**Figure 2:** Network Visualization Authors

In the author's bibliometric mapping using the VOSviewer software, the results are shown in Figure 2 Network Visualization Authors. There are 5 densest clusters, namely red, green, dark blue, yellow, and purple.

The 5 clusters indicate that many authors carry out collaborative research. But on the other hand, many writers conduct research related to waqf and environment as the sole author.

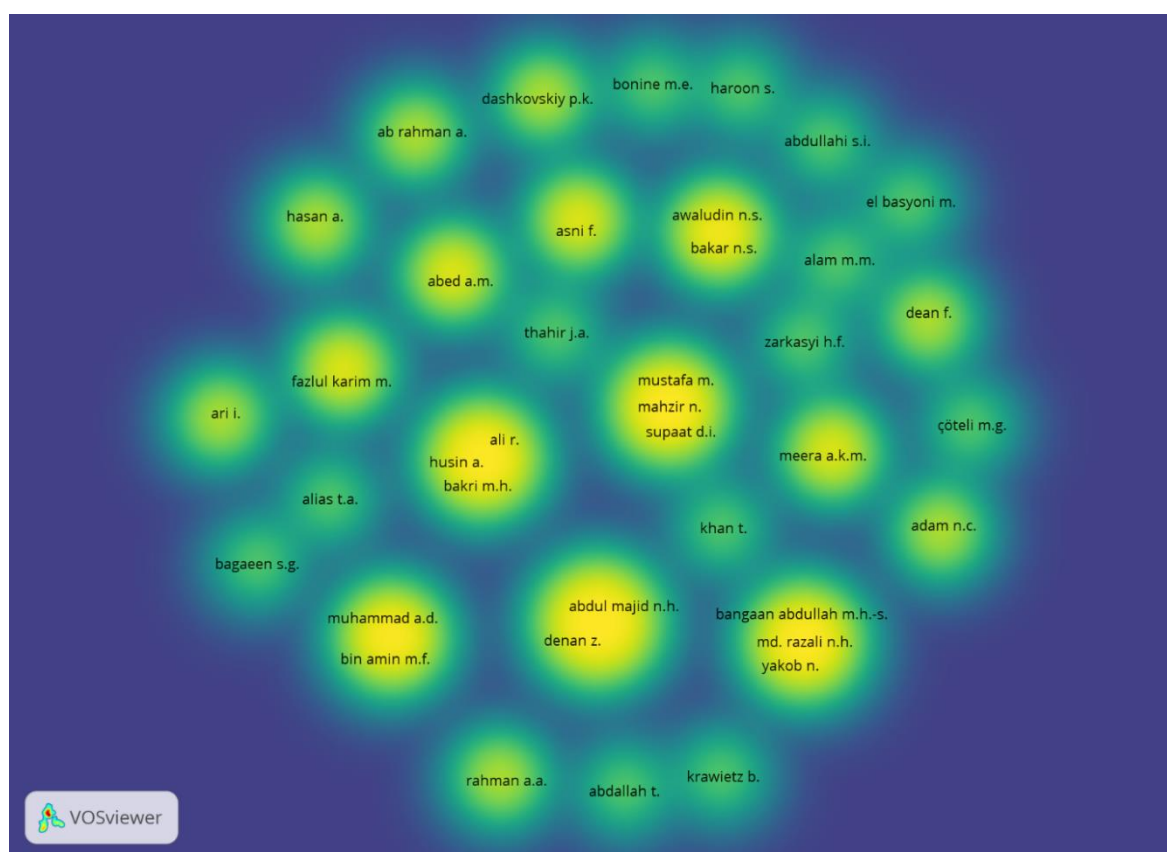


Figure 3: Density Visualization Authors

The number of articles written by each author can be seen from Figure 3 Density Visualization Authors. The brighter the yellow light indicates the number of articles written by the author. From Figure 3 Density Visualization Authors, it can be seen that the authors who publish the most waqf and environment articles are Abdul Majid NH, Denan Z, Ismail S, Bangan Abdullah

MHS, Razali NH, Yakob R, Ali R, Mustafa M, Mahzir N, Supaat DI, Muhammad AD, and Amin MF.

2. Co-Authorship Organizations

In bibliometric analysis, institutions can be seen where they come from. Through this analysis, the results of institutions that publish a lot of publications are as follows.

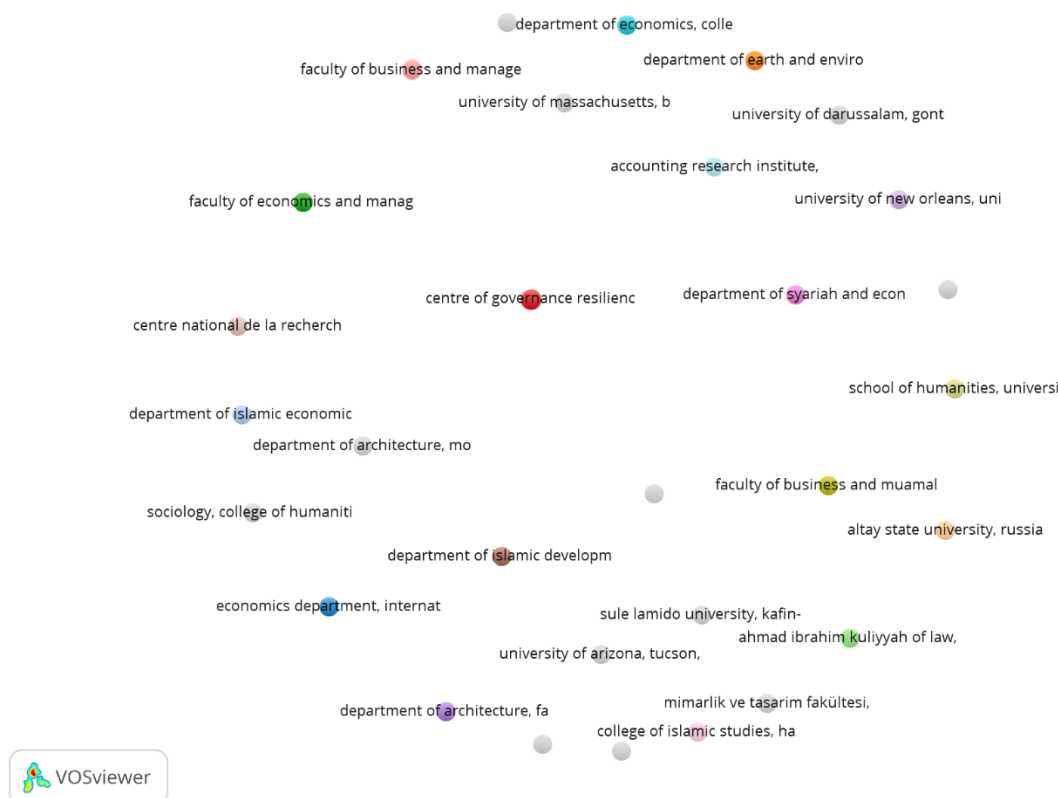


Figure 4: Network Visualization Organizations

In Figure 4 Network Visualization Organizations, it can be seen which institutions are productively publishing articles related to waqf and the environment. The colored circle image also shows which institutions often collaborate with other institutions in publishing articles. When viewed from the colored circles, the institution with the name Department of Islamic

Development, Center of Governance Resilience, Department of Shariah and Economics, Faculty of Business and Muamalah, Faculty of Economics and Management, Department of Earth and Environment, International Economics Department is an institution that collaborates with other institutions.

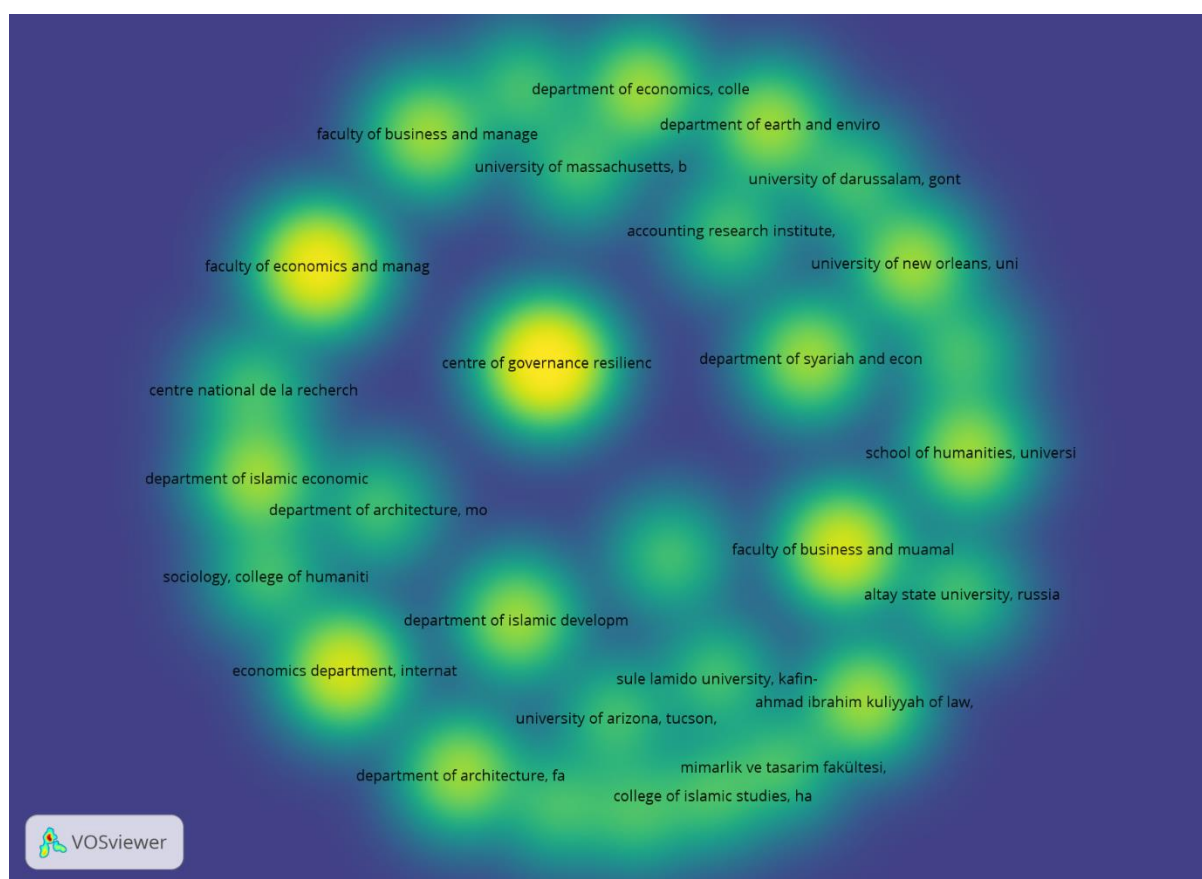


Figure 5: Density Visualization Organizations

Figure 5 Density Visualization Organizations shows which institution publishes the most waqf and environment-themed articles. The brighter the light means the more articles published by the institution. From the picture, it can be seen that the institutions that publish a lot of waqfs and environment articles are the

Center of Governance Resilience and the Faculty of Economics and Management.

3. Co-Authorship Countries

Subsequent analysis shows which country the article was published in. The results of the bibliometric analysis are shown in the following figure.



Figure 6: Network Visualization Countries

Based Figure 6 Network Visualization Countries, shows which countries publish the most waqf and environment articles. The bigger the circle, the more articles will be published. It can be seen from Figure 6 Network Visualization Countries, the country that

publishes the most waqf and environment articles are Malaysia. And if we enlarge Figure 6, we get the results in the image below which shows other countries that publish a lot of waqf and environment articles such as Turkey, Pakistan, UAE, and Nigeria.

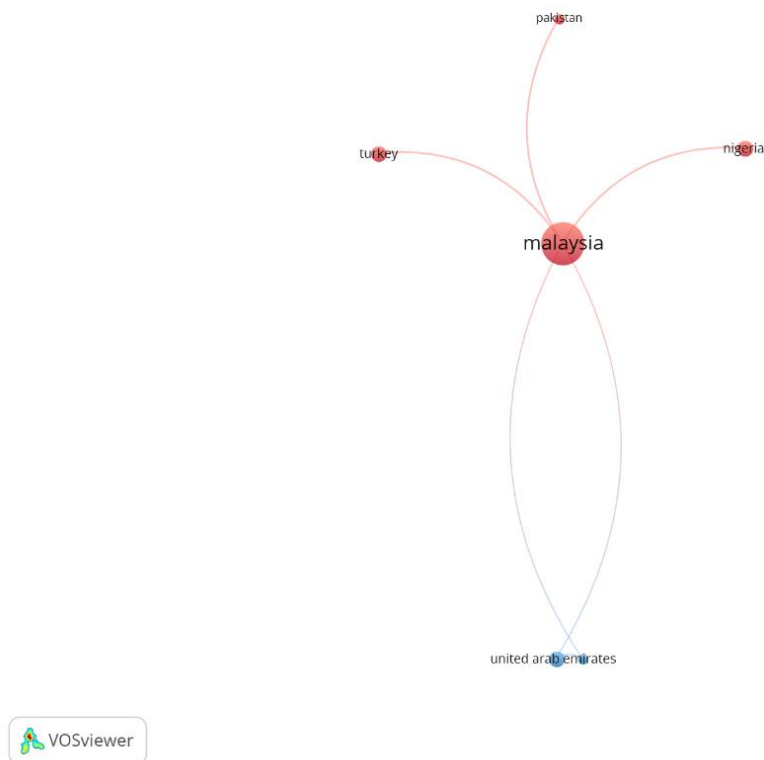


Figure 7: Magnification of Figure 6

Co-Occurrence Analysis

1. Co-Occurrence All Keywords

Bibliometric mapping using VOSviewer was also carried out to find the most used keywords in waqf and

environment articles. The results are shown in the image below.

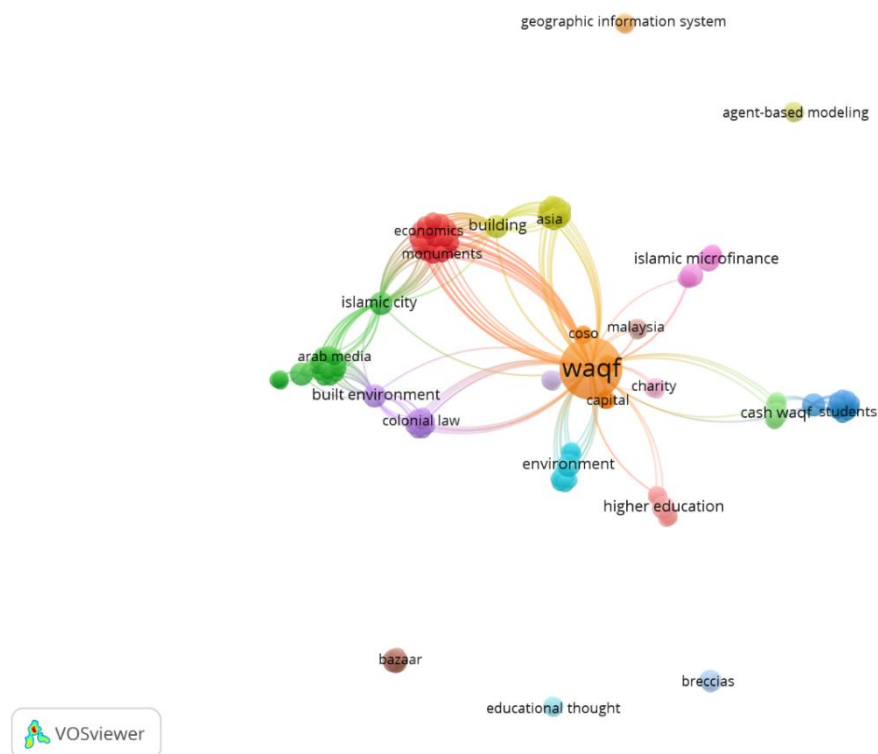


Figure 8: Network Visualization All Keywords

From Figure 8 Network Visualization All Keywords, the results show the most used keywords in waqf and environment articles. The results show 8 clusters with different colors. Each cluster with the same color indicates a very strong relationship. In the orange cluster, it was found that the most widely used keyword was waqf. In the light blue cluster, the word that appears the most is the environment. In the dark purple cluster, the words that appear the most are built environment and colonial law. In the dark green cluster, the words that appear the most are Islamic city and Arab media. In the red cluster, the words that appear the most are economics and monument. In the light green cluster, the word that appears the most is cash waqf. In the light

purple cluster, the word with the most numbers in Islamic microfinance. In the light orange cluster, the word that appears the most is cash waqf. The issues that are strongly related and widely researched can be seen from the largest circle. Such as waqf and economic, waqf and Islamic microfinance, waqf and built environment, waqf and environment. It can also be seen that there are more waqf and economics issues than waqf and others, which are still few.

9. Co-Occurrence Keyword (Title and Abstract)

In the image below, mapping is done to find out which keywords are seen the most from the title and abstract of each article. The mapping results are shown in the following figure.

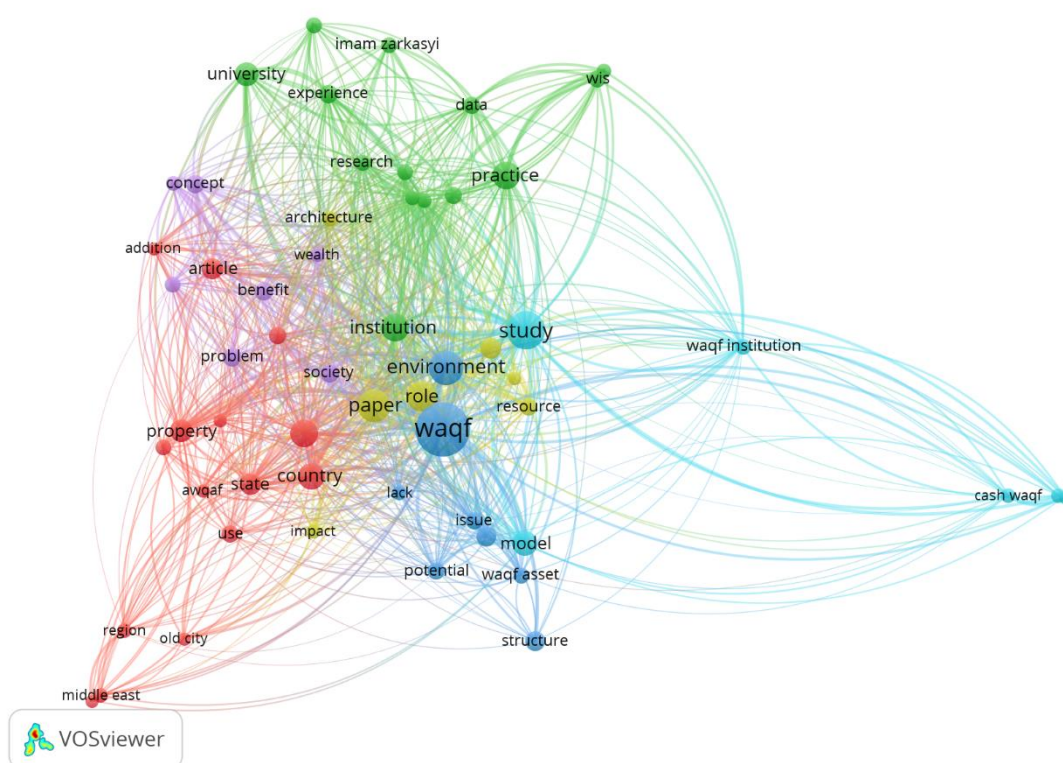


Figure 9: Network Visualization Keyword by Title and Abstract

Based on the results of keyword mapping derived from the title and abstract, 6 clusters with different colors were generated. Each cluster with the same color indicates a strong relationship between keywords. In the purple cluster, keywords that are widely used in titles and abstracts are concept, benefit, problem, and society. The keywords that are widely used in the red cluster are country, property, state, and awqaf. The keywords in the green cluster are university, practice, and experience. The keywords in the dark blue cluster that are most widely used are impact, resource, business, and use. In the blue cluster, the most widely used keywords are

waqf, environment, potential, waqf asset, and issue. While the most used keywords in the yellow cluster are paper, role and, resource. The issues that are most researched and have a strong relationship based on title and abstract are waqf, role, and environment.

FINDINGS

Research results from bibliometric analysis mapping using VOSviewer software show that there are still few research articles related to Waqf and Environment indexed by Scopus. Some relatively many

authors 1 or 2 articles related to this topic, indicating that the topic of waqf and environment is still new so it needs to be investigated further. Waqf and Environment research was first published in 2006. The trend with this research theme began to increase in 2015 and the number decreased but not significantly until 2021. Research related to Waqf and Environment has been

published by various journals and authors resulting in a variety of topics. The most widely used keywords in articles on the theme of Waqf and Environment include waqf, cash waqf, environment, and Islamic finance.

The following is a summary of the results of bibliometric mapping using VOSViewer software.

Table 2: Summary of Bibliometric Results

No	Author with Most Publications	Most Relevant Keywords
1	Abdul Majid N.H	Waqf
2	Denan Z	Islamic city
3	Ismers only havail S	Building
4	Bangan Abdullah M.H.S	Built environment
5	Razali N.H	ArchitecturalTheory
6	Yakob R	Architecture
7	Ali R	Cash waqf
8	Mustafa M	Environment
9	Mahzir N	Islamic microfinance
10	Supaat D.I	Higher education

Waqf has a good contribution to the needs of the Shari'ah. One of the important goals of waqf is to cover the needs of certain levels of society such as the needy, poor, travelers, widows, and students. In addition, waqf has succeeded in creating jobs. Thus waqf can encourage development in various sectors, such as the local economic sector, the industrial sector, and other financial sectors. Historical experience explains how waqf can contribute to the welfare and sustainable development of society (Alam et al. 2018).

The benefits of waqf not only include those mentioned above but also include the environment. Such as the model of environmental protection by waqf as done by Afrozi et al. (2019) where the researcher proposes the use of waqf funds to increase the value of farmers and total GDP.

The further use of waqf for the environment through waqf forest management where supports forest conservation and SDGs 16. Jannah et al (2021) in research related to sustainable forest management (SFM) agroforestry practices in waqf forests are estimated to be able to expand forest resources, increase biodiversity, forest health, forest production, protection function, and contribution to social and economic development benefits.

Waqf institutions play a major role in climate finance. Together, zakat and alms can play a role in overcoming the crisis due to climate change. Green waqf can be established as a special entity for the conservation

of soil, water, plants, waste disposal, and others. waqf can also be dedicated to research as well as to increase consumer awareness and provide support for mitigating climate change. as has been done by SRI Funds, Islamic Green Funds, Green Bonds, and the Islamic Green Sukuk which can make a significant contribution to climate change (Obaidullah, 2018).

CONCLUSION

This study aims to examine and map the research that has been carried out by many researchers related to the development of research trends in waqf and the environment. The data analyzed consisted of 30 articles indexed by Scopus from 2006 to 2021. The results showed that articles with the theme of waqf and the environment were still few carried out and published by various institutions. It is hoped that as technology develops, this article will continue to grow and the topic will also be wider. Popular topics and keywords are shown in this study have the potential to be further developed. In addition, several journals and authors who currently have published many articles can be used as references for future research.

Visualization of bibliometric mapping found that the authors who publish the most publications on waqf and environment themes are Abdul Majid NH, Denan Z, and Ismail S. Then the most popular institutions are calculated based on the number of publications and the

number of links to other institutions, as shown by the results of bibliometric mapping is the Center of Governance Resilience and the Faculty of Economics and Management. The bibliometric results also show that the countries with the most publications of waqf and environment articles are Malaysia, Turkey, Pakistan, UAE, and Nigeria.

This research can be used as a basic reference to see how the graphic visualization of the development of research trends with the theme of the role of waqf and the environment is published scientific research so that it can still be developed by experts. Further research recommendations can refer to the most popular keywords that still have the opportunity to be discussed in more depth, for example regarding the speed of changing trends in waqf and the environment. Furthermore, to be able to perform a complete bibliometric analysis using more elements studied or using other types of software tools to produce more comprehensive results.

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