

Waqf Development for Responsible Consumption and Production

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The discussion on responsible consumption and production is summarized in the twelfth SDGs goal. On the other hand, waqf is an instrument of Islamic social funds that has a sustainable nature and has the relevance of waqf to the SDGs, so it has the potential to be developed in its role in responsible consumption and production and its impacts. This study seeks to see the waqf development model that is relevant to the goals of the SDGs by determining the priority of the waqf model that can be applied in Indonesia which is in line with the objectives of SDG-12. The results of the study indicate that the Waqf & ZIS model is the right model to support the achievement of the twelfth goal of the SDGs, namely responsible consumption and production. This study also proposes a waqf-based waste management system that is suitable for this purpose.

Keywords: Waqf; SDG-12; Responsible Consumption & Production

OPEN ACCESS

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Received: 15 October 2023
Accepted: 15 December 2023
Published: 31 December 2023

Citation:
(2023) Waqf Development for
Responsible Consumption and
Production.
Fara'id and Wealth Management.
3.2.

INTRODUCTION

According to UNDP data, about 1.3 billion tons of food are wasted every year, while nearly 2 billion people are hungry or malnourished. The food sector accounts for about 22 percent of total greenhouse gas emissions, mostly from the conversion of forests to agricultural land. Then globally 2 billion people are overweight or obese. Only 3 percent of the world's water is fresh (drinkable), and humans are using it faster than nature can replenish it. Every year 4.8 to 12.7 million tons of plastic are dumped into the ocean and more than 40 million tons of e-waste are generated (increasing annually by 4 to 5 percent), causing severe damage to ecosystems, livelihoods and health. A third of the food produced each year is wasted, yet food security is a growing concern. So the goal of sustainable development is to ensure sustainable consumption patterns, promote improved human well-being, decouple economic growth from resource use and environmental degradation.

Indonesia in 2020 produced 67.8 million tons of waste where according to data from the Ministry of Environment and Forestry (KLHK) 37% of waste in Indonesia comes from household activities. The next largest source of waste is from traditional markets, which is 16.4%, 15.9% of waste comes from the region, 7.29% of waste from commerce, 5.25% from offices, 14.6% of waste comes from other sources. Based on the type, 39.8% of the waste generated by the community is in the form of food waste, 17% plastic waste, 14.01% wood or twig waste, 12.02% paper or cardboard waste, and 6.94% waste of other types. As much as 3.34% of waste is metal and 2.69% of waste is fabric. Then, waste in the form of glass and rubber or leather amounted to 2.29% and 1.95%, respectively. Meanwhile, 55.87% of waste was successfully managed throughout last year. The remaining 44.13% of waste remains unmanaged (databoks.katadata.id). Indonesia is also estimated to produce around 190,000 tons of waste per day, which is dominated by organic waste. Plastic waste accounts for 25,000 tons every day of which 20% ends up in rivers and seas. Currently, Indonesia ranks second after China as the country that contributes the most plastic waste to the ocean. In addition, according to Sustainable Waste Indonesia (SWI) 2020 data, of the 65 million tons of waste generated by Indonesians every day, only 7% of the waste is recycled, while the remaining 69% ends up in landfills. Data from SWI also shows that less than 10% of plastic waste is recycled and the remaining 50% ends up in landfill.

Projections of Indonesia's population show that the population continues to grow and will certainly increase the amount of waste generation (Safitri et al. 2018). Based on Indonesian Law Number 18 of 2008, one of the causes of the increasing amount of waste is the increase in population and changes in people's consumption patterns, which results in an increasingly diverse volume, type and characteristics of waste. Several researchers analyzing the problems in waste management in Indonesia found that there is no firm legal basis, inadequate landfills, lack of effort in composting, and lack of landfill management with the right system (Chaerul et al. 2007). It can also be seen from the following indicators, namely the high amount of waste generated, the low level of waste management services, the limited number of landfills, and waste management institutions and costs (Kardono, 2007). In order to maintain the stability of an industry, strong financing is required.

One solution that can be done to overcome the problem of waste financing is to use the waqf instrument. Budiman (2011) stated that waqf can be used for environmental protection in Indonesia, including waste management, such as the integration of waqf waste energy and solar power plants that can boost the community's economy and improve the environment (Hamdani et al. 2021). According to Setyorini et al. (2019) waqf is an instrument in Islam that can solve people's problems, one of which is environmental problems related to sustainable development and justice for future generations. Then Obaidullah (2018) revealed that waqf-based development is in line with the SDGs goals and is compatible with maqasid sharia. Therefore, SDGs goal 12 can be achieved by integrating the waqf instrument in its funding.

Towards a model waqf approach to SDGs point 12 needs to be intensified. There is still little literature on the development of waqf models related to SDGs point 12. These studies show the advantages and benefits of waqf towards SDGs point 12 such as Hamdani et al. (2021) examined waqf-based waste energy management with a case study on solar power plants. Then, Wildana and Manziliati (2021) examined waqf and waste in waste management during and after the covid-19 pandemic. Joseph (2015) in his writing examines how waqf is an integral part of productive land and water resource management in Ottoman Syria.

Therefore, this study aims to design and propose a waqf model for SDGs goal 12 Responsible Consumption and Production by combining the concept of waqf fulfillment of SDGs goal 12. Through ANP method to obtain experts' opinions, various waqf models for SDGs goal 12 are designed and evaluated. Five waqf models for SDGs goal 12 are created to find the right waqf model from the five proposed models and then propose the best model that can be applied for SDGs goal 12 in Indonesia. This study contributes to knowledge by providing various waqf models for SDGs goal 12 Responsible Consumption and Production that can be adopted by relevant institutions. Although, this study takes the case of Indonesia, the general framework can be applied to Islamic commercial financial institutions and Islamic financial institutions in other countries, subject to applicable rules and regulations.

This paper will discuss the literature review related to the topic in Section 2, followed by discussing the methods and data used, as well as model development in Section 3. Furthermore, the results and discussion of the research will be presented in Section 4, while in Section 5 the research conclusions and recommendations for stakeholders, especially practitioners and regulators, as well as for future research will be presented.

LITERATURE REVIEW

Theoretical background

The Sustainable Development Goals (SDGs), also known as global goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity. There are 17 integrated SDGs points where every action in one area will affect outcomes in other areas, and development must balance social, economic and environmental sustainability (UNDP, 2022). Indonesia's commitment to achieving the SDGs is contained in the SDGs Indonesia Towards 2030 Roadmap, which focuses on the goals and targets of Indonesia's development, tapering down to issues in the sectors of health, education, social protection, food security and sustainable agriculture, infrastructure - including basic infrastructure such as water and sanitation, telecommunications, and green energy - ecosystem services and biodiversity, as well as financing government administration.

Waqf is a voluntary, sharia-based instrument intended to improve welfare in society. In this regard, it

is important to emphasize that the SDG framework has much in common with the waqf development agenda (Khan, 2015). In addition, waqf is characterized by its sustainable nature. The Sustainable Development Goals (SDGs) are the goal of many countries around the world. In Indonesia, the sector has the potential to become a source of resources and funding for SDGs programs. From the many programs run by waqf management organizations, it is clear that waqf has relevance to the SDGs goals to be achieved, such as poverty alleviation and the improvement of education, health, and others. (Akhtar, 1996; Al-Khouli, 2005; Hasan, 2006; Marsuki, 2009; Budiman, 2011; Abdullah, 2018; Thajudeen, 2018). In Indonesia, waqf policy is regulated in Law No.41 of 2004.

According to Obaidullah (2018), waqf-based development is in line with the goals of the SDGs and is compatible with *maqasid sharia*. Waqf is essential in financing development and social welfare schemes. The success of the SDGs relies heavily on the contribution of the philanthropic sector as well as the active involvement of the private and public sectors. Several studies have looked at waqf from a number of different angles, for example the discussion of economic sustainability (Saiti et al., 2019), health sustainability (Handayani & Kamilah, 2019; Ismail et al., 2019; Qurrata et al., 2019), education sustainability (Osmani and Hoque, 2018), nature sustainability (Ali and Kassim, 2020), and to environmental conservation (Khalfan and Ogura, 2012). The study found that waqf is a source of funding that can be used in many sustainable development projects.

Previous studies

There is some research on waqf models in line with the SDGs goals. Some proposals are suggested and some have provided evidence of success stories of waqf models with SDGs goals. The waqf models that are in line with SDGs points 1 and 2 include. Waqf microfinance model, waqf entrepreneurship model, productive cash waqf model in corporate waqf, micro waqf bank, and waqf-based pension model, all of the above models are aimed at sustainable poverty and hunger alleviation (Haneef et al., 2015; Iman and Mohammad, 2017; Thaker and Thaker, 2019; Tutukoa et al., 2017; Hossain, 2019; Susilistiani et al., 2019; Ubaidillah et al., 2020). Some of the proposed models that are in line with SDGs point 4 include the corporate waqf model, the waqf and zakat model and the waqf capital percentage of waqf aimed at quality education (Shamsudin et al., 2015; Ahmad, 2020; Pitchaya et al.,

2020). As for the potential of waqf that can encourage economic growth in accordance with SDGs points 8 and 11 through the waqf-real estate model, crowdfunding model, waqf-cooperative model aimed at waqf land development, community empowerment and housing finance for the lower middle class (Hasan and Sulaiman, 2016; Thaker et al., 2017; Pitchay et al., 2018; Zabri and Muhammad, 2018; Thaker et al., 2019; Sulaiman et al., 2019; Kamal and Ating, 2020). The model can realize the goals of the SDGs in the fulfillment of cities and communities.

Waqf models that can realize the fulfillment of SDGs point 8, namely employment and economic growth, can be done through the waqf-micro-enterprise model and the waqf-venture model (Kachkar, 2017; Ambrose, 2018; Hamber and Hanif, 2017; Rahman and Soheli, 2019; Zakaria and Samad, 2013; Tanjung, 2018). The two models are aimed at empowering the poor and socio-economic development of the poor. The next proposed waqf model is related to SDGs points 13 and 15, namely tackling climate change and maintaining terrestrial ecosystems through the environmental protection waqf model, the waqf-zakat model and the waqf-muzara'ah model (Afroz et al., 2019; Sulistyowati, 2018; Olaniji, 2014). Such models are proposed in integrated environmental protection, disaster management and providing facilities for farmers. Furthermore, the waqf model that is in accordance with SDGs points 16 and 17 is the waqf-CSR model. This research is about how waqf is harmoniously operationalized into a legal framework using collaborative governance mechanisms. Mohsin (2013) and (Mohammad, 2015) revealed that the potential of waqf in financing is not only in the field of religion but also in financing various goods and services needed globally, such as education, health, social and commercial care, basic infrastructure, and creating jobs for some people.

In conclusion, the waqf model and SDGs can provide many benefits to various fields at both the micro and macro levels, for sustainable economic development, as well as the welfare of society. Unfortunately, the waqf model for SDGs purposes has not specifically applied sustainable consumption and production patterns, while the studies are also still limited. From the entire development of waqf models, it can be concluded that in general five models can be formed, namely (1) ZIS Waqf Model; (2) Takaful Waqf Model; (3) Microfinance Waqf Model; (4) Bank Waqf Model; and (5) Sukuk Waqf Model. Beyond that in terms of the function of the development model can be

divided into 3 namely as a social function, commercial function, and social and commercial functions.

METHOD

The selection of methods carried out in the study of Waqf Model for SDGs point 15, namely terrestrial ecosystems, considers the objectives, characteristics of waqf and data availability. Because the purpose of this research is to analyze waqf modeling that can be applied by having relevance to SDGs, especially the fifteenth point, namely terrestrial ecosystems. Therefore, a method is needed that is able to provide the best results in decision making.

At the same time, the practice of waqf models and SDGs has the criteria of developing social funds in collaboration with environmental preservation, which has the potential to provide sustainable benefits. Based on these considerations, this study uses the *Analytic Network Process* (ANP) method to propose a waqf model that is relevant to the SDGs and evaluate the best waqf model among the proposed models.

Furthermore, this research seeks to analyze the criteria for a waqf model to help achieve the SDGs from a *Maqasid Sharia* perspective. This research also seeks to determine the criteria of the five elements of *Maqashid Sharia* and the proposed waqf model that has the most prioritized impact. Therefore, an analytical tool is needed in decision-making that is able to provide a measurement of the prioritization of the criteria and the proposed model. The prioritization is intended to rank the criteria that affect the proposed waqf model. Thus, in this research, the method used is ANP (Saaty, 2005).

ANP is a general theory used to measure a relatively composite priority ratio from a given individual ratio scale. The results reflect the relative measurement of the effects of interacting or interconnected elements. In research aimed at identifying good decision-making methods, the ANP method is relatively superior to other decision-making methods based on several different criteria, such as problem abstraction, width of structure, depth of structure, scientific basis, and validity of results (Saaty, 1996; Saaty & Vargas, 2006).

ANP requires that respondents must be consistent in answering the pairwise comparison questionnaire with a maximum allowable inconsistency of 10% (Ascarya & Yumanita, 2011; Rusydiana & Devi, 2013a). However, ANP does not require significant consensus (Kendall's scoring agreement) among respondents when they fill out the questionnaire individually. However, this study will calculate Kendall's

rater agreement to understand different groups of respondents on this topic.

According to Azis (2003) and Sipahi & Timor (2010), ANP is a development of the Analytic Hierarchy Process (AHP) where levels have a hierarchy. In the

AHP network there are levels of objectives, criteria, sub-criteria, and alternatives, where each level has elements. Meanwhile, in the ANP network, the levels in AHP are called clusters that can have criteria and alternatives in them, which are now called nodes.

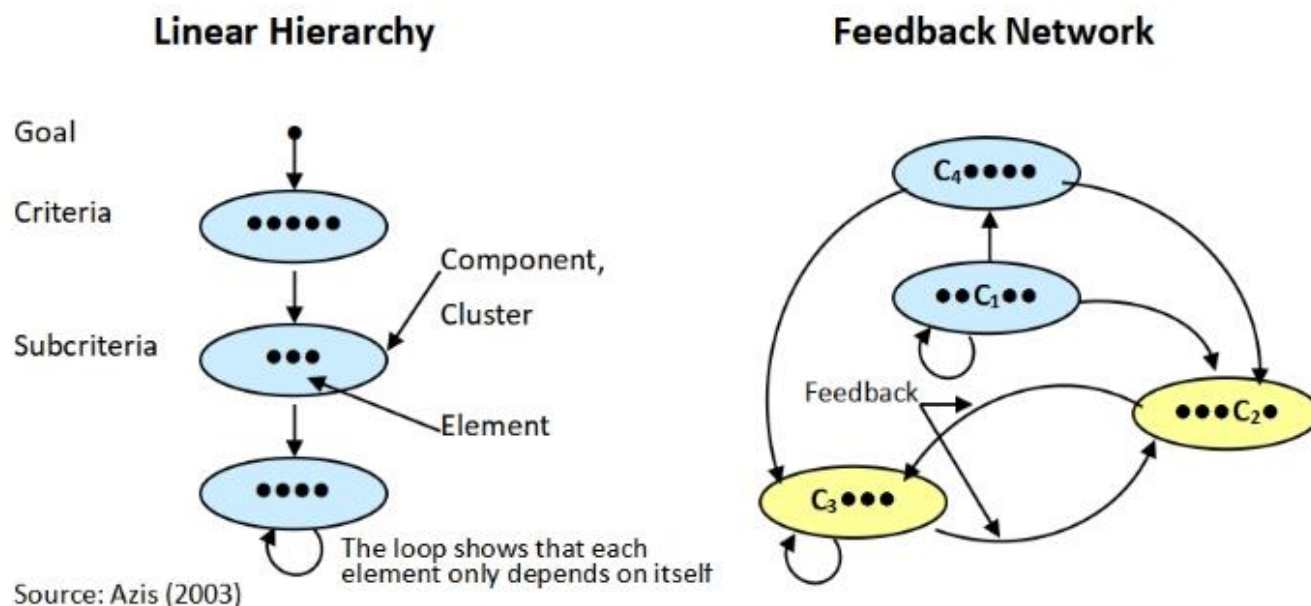


Figure 1. Comparison of Hierarchy and Network

Data

The ANP method requires a focus group discussion (FGD) of knowledgeable respondents, while each FGD can consist of 6-12 respondents (Ascarya et

al., 2022). To understand the differences in respondents' views, a group of 8 (eight) practitioners and a group of 8 (eight) experts including 4 (four) academics and 4 (four) regulators were selected for the ANP method, using purposive sampling, as the respondents must be knowledgeable/experts in the topic of waqf and SDGs.

Table 1. List of Respondents by Research Stage

	Practitioner	Expert			
		Total	Academics	Regulator	Total
Quantification of ANP model	8	8	4	4	8

The respondents selected come from various backgrounds, including waqf institutions in Indonesia, waqf regulators, the Indonesian Waqf Board, the Indonesian Ministry of Religious Affairs, DEKS Bank Indonesia, and academics who focus on waqf topic research. In addition, respondents will be involved in various stages of ANP, starting with the construction of the ANP model through in-depth interviews and/or focus group discussions (FGDs), followed by the quantification of the ANP model through interrelated questionnaire surveys.

The software used in this research is *Super Decision* 2.10 and *Microsoft Excel* 2013 in processing and analyzing data. ANP is a mathematical theory that is able to analyze influences with an assumption approach to

solve the form of the problem (Rusydiana & Devi, 2017). This method is used in the form of a solution with consideration of the adjustment of the complexity of the problem in a synthetic decomposition accompanied by a priority scale that produces the greatest priority influence (Rusydiana, 2016; Rusydiana & Devi, 2013b).

Model Development

The ANP method is used in the form of a solution with consideration of the adjustment of the complexity of the problem in a synthesized decomposition accompanied by a priority scale that produces the greatest priority effect. (Rusydiana & Devi, 2013a). ANP allows interaction and feedback from

elements within clusters (*inner dependence*) and between clusters (*outer dependence*) (Chen et al., 2019; Saaty, 1996).

Focus group interview is one part of ANP which is a qualitative technique for data collection. A *focus group* is a group of individuals with certain characteristics who focus discussion on a particular issue or topic, or a focus group consists of a small group of people, usually numbering between six and nine, who are brought together by a trained moderator (researcher) to explore attitudes and perceptions, feelings and ideas about a

topic. A focus group interview provides a setting for a relatively homogeneous group to understand the questions asked by the interviewer (Dilshad & Latif, 2013).

As in a hierarchy, ANP provides a general framework for handling decisions without making assumptions about the independence of higher-level elements from lower-level elements and about element independence (Ascarya et al., 2018).

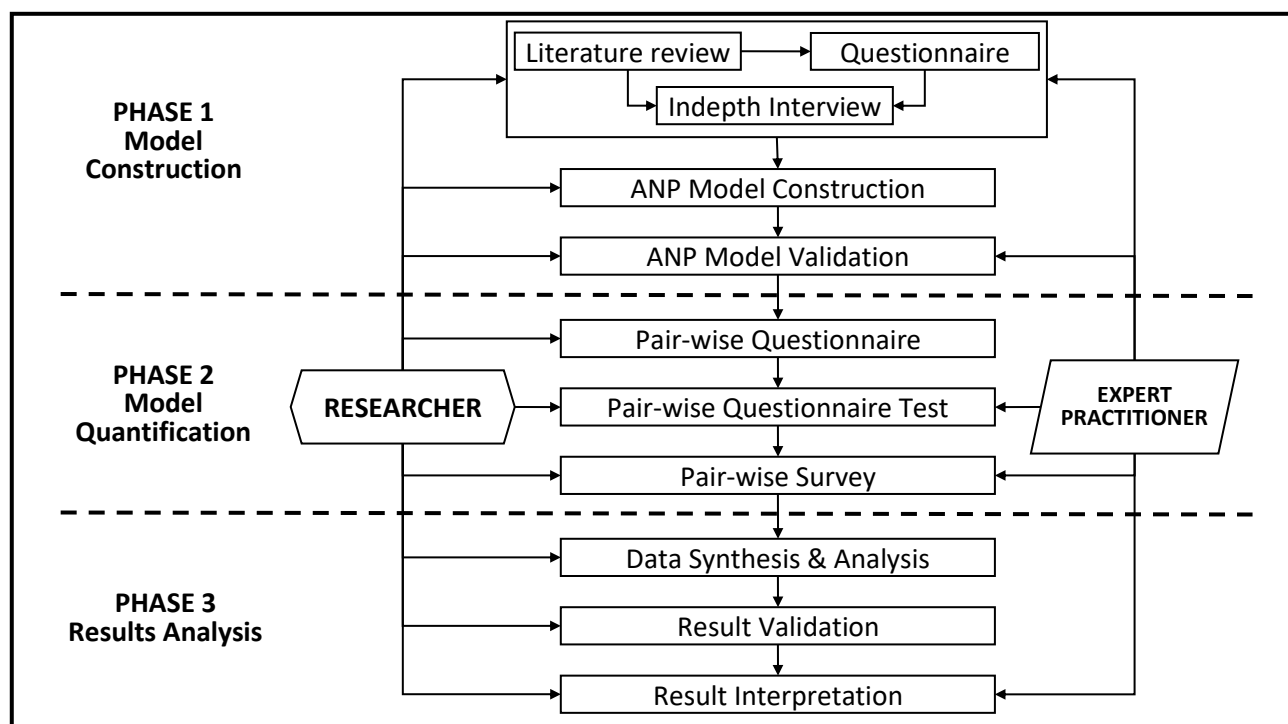


Figure 2. ANP stages

Source: (Ascarya & Yumanita, 2011)

In this empirical study, the steps to be carried out follow three stages, namely model construction, model quantification and result analysis. Stage 1 is model construction or decomposition to identify, analyze and structure the complexity of the problem into an appropriate ANP network. Stage 2 is model quantification or pairwise comparison, and stage 3 is result analysis (Kheybari et al., 2020).

Analytic Network Process is a decision-making method and a generalization of the Analytic Hierarchy Process (AHP). Both ANP and AHP are multicriteria decision analysis techniques developed by Thomas Saaty. While AHP is primarily designed for structuring decision problems with a hierarchy of criteria and alternatives, ANP extends this approach to deal with more complex decision structures involving interdependencies and feedback.

RESULT AND DISCUSSION

RESULT

The *ANP Model Framework in SuperDecision 2.10* shows that for the purpose of developing the SDGs waqf model, there are three criteria that will be taken into account, namely economic, social and environmental. Then the three criteria have sub-criteria, where economic criteria have five sub-criteria or objectives, social and environmental criteria have six sub-criteria or objectives. Then the three criteria with each sub-criteria are associated with the Maqashid Syariah perspective, which consists of six elements. Finally, five waqf models are proposed.

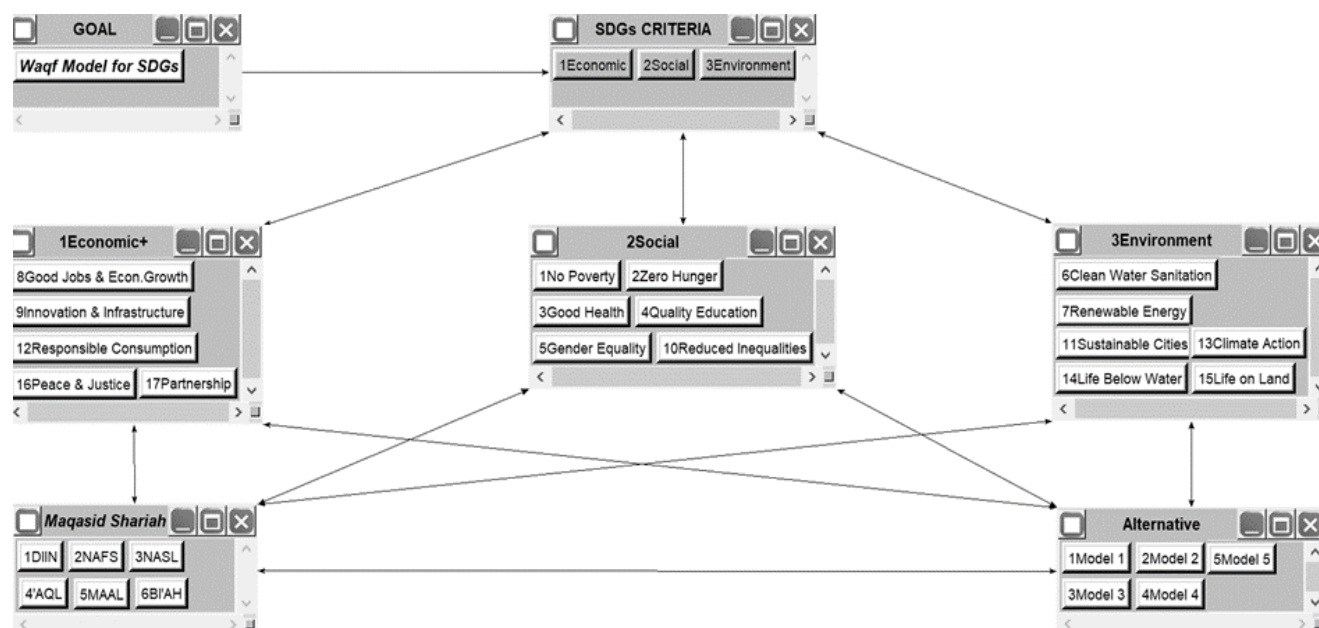


Figure 3. ANP Model Framework in SuperDecision 2.10

Consistency is a requirement of ANP results, where the level of inconsistency is still allowed a maximum of 10%. (Saaty, 2005) While convergence is

not a requirement for rater agreement (Kendall W). The ANP results on the main strategic criteria to select the best SDG criteria model can be seen in Table 2.

Table 2. ANP Result on SDGs Criteria

SDG criteria	Respondent			Rank All
	Practitioner	Expert	All	
1.Economic	0.328	0.317	0.323	2
2.Social	0.361	0.368	0.364	1
3.Environment	0.302	0.308	0.305	3
Consistency	0.000***	0.000***	0.000***	
Kendall's W	0.328	0.203	0.250	
P-value	0.072*	0.196	0.018**	

***Significant at 1% level; **significant at 5% level; *significant at 10% level

In Table 2 ANP Result on SDGs Criteria shows the priority ranking of SDGs criteria consisting of three criteria, namely economic, social, and environmental. There are two criteria for respondents, namely experts and practitioners, which are then accumulated in determining the weight value of each criterion. According to all respondents, the most important SDGs criteria are Social (0.364), Economics (0.323), and Environment (0.305). Both practitioners and experts have the same order of priority towards the SDGs criteria.

The social criterion is the most important criterion in line with its critical role in accelerating progress towards achieving the SDGs by 2030. A key element of the national strategy is social to support

human capital development, political stability and inclusive growth. The second SDG criterion is economic, which relates to poverty alleviation and promoting sustainable economic growth by achieving higher levels of productivity. As for the environmental criteria, it is an important supporting factor in implementing the SDGs and ensuring the health of the planet by paying attention to environmental sustainability.

When viewed at the consistency level where the consistency value in Table 2 ANP Result on SDGs Criteria shows a value of 0.000, all results are consistent according to the experts. In addition, Kendall's W follows the P-Value which shows the level of significance. The P-Value shows how significant the

priority ranking order of the SDG criteria is. If the results found are not significant, then the priority ranking is considered still under debate, whereas if the results are significant, then the ranking order is correct and agreed upon by the respondents as the ANP results

for the SDG criteria above, where the results are found to be significant. Furthermore, in this study determining the ranking for the priority level of Maqashid Syariah criteria was also carried out, the results of the ANP weight value are as follows:

Table 3. ANP result on Maqasid Criteria

Maqasid criteria	Respondent			Rank All
	Practitioner	Expert	All	
1DIIN	0.157	0.194	0.175	1
2NAFS	0.167	0.173	0.170	2
3NASL	0.163	0.166	0.165	4
4'AQL	0.152	0.125	0.138	6
5MAAL	0.170	0.167	0.168	3
6BI'AH	0.167	0.155	0.161	5
Consistency	0.000***	0.000***	0.000***	
Kendall's W	0.044	0.226	0.087	
P-value	0.877	0.106	0.217	

***Significant at 1% level; **significant at 5% level; significant at 10% level

The Maqashid Syariah criteria used in this research consist of six elements, namely the preservation of religion (*diin*), the preservation of the soul (*nafs*), the preservation of offspring (*nasl*), the preservation of reason (*aql*), the preservation of wealth (*maal*) and the preservation of the environment (*bi'ah*). These six elements play an important role in formulating a waqf model that can support the SDGs to generate the most impactful *maslahat* (goodness and benefit). In addition, maqasid syariah play a role to ensure that the objectives and processes remain sharia-compliant, especially in the evolving waqf models.

Based on Table 3 ANP results on Maqasid Criteria found that the Maqashid Syariah criteria with the highest weight value is the preservation of religion (*in*) with a value of 0.175 so that it becomes a criterion with the first priority ranking. Furthermore, the second priority rank is occupied by the preservation of the soul (*nafs*) with a weight value of 0.170. In the third priority rank, there is the preservation of property (*maal*) with a weight value of 0.168. The fourth priority rank is the preservation of offspring (*nasl*) with a weight value of 0.165. Then the fifth priority rank is the preservation of the environment (*bi'ah*) with a weight value of 0.160. Finally, the sixth priority ranking is the preservation of the mind (*'aql*) with a weight value of 1.138.

The preservation of religion (*in*), which is ranked first, is important to be prioritized by a Muslim

considering that waqf is a form of worship in addition to its role as an economic and social instrument. In addition, the preservation of religion means preserving and maintaining one's Islamic faith in implementing waqf or realizing SDGs, so that every process and stage carried out must be ensured to meet the provisions of sharia compliance. Furthermore, the second priority is preserving the soul (*nafs*), where a person must try to prevent bad things that might happen in life and ensure that they survive. Such is the waqf model and the SDGs criteria.

Respondents' views from Table 3 ANP results on Maqasid Criteria show different views on Maqashid Syariah criteria. This is indicated by the P-value which is not significant, so it can be concluded that the priority order has not been agreed upon by the respondents. The ranking order is also still causing debate among experts or respondents, where they consider that all elements/aspects of maqashid sharia are equally important, making it difficult to rank the priority level. Therefore, although there is a ranking that shows priority, the significance of the ranking is not very valid. On the other hand, the level of consistency is very good with a weight value of 0.000.

The next table shows the alternative waqf models proposed from various literature reviews. There are five main waqf models ranked.

Table 4 ANP Result on Alternative Waqf Model for SDG12 (Responsible Consumption)

Waqf Model for SDG-12	Respondent			Rank All
	Expert	Practitioner	All	
1Waqf & ZIS	0.382	0.210	0.296	1
2Waqf & Takaful	0.129	0.131	0.130	5
3Waqf & Microfinance	0.226	0.161	0.194	3
4Waqf & Bank	0.128	0.199	0.164	4
5Waqf & Sukuk	0.131	0.296	0.214	2
Consistency	0.000***	0.000***	0.000***	
Kendall's W	0.590	0.306	0.275	
χ^2	18.900	9.800	17.650	
P-value	0.001***	0.043**	0.001***	

***Significant at 1% level; **significant at 5% level; significant at 10% level

In Table 4 ANP Result on Alternative Waqf Model for SDG12, the results of ANP weighting on five alternative waqf models. Starting from the waqf model whose social ratio compared to the commercial ratio is higher to the lowest, namely Waqf & ZIS, Waqf & Sukuk, Waqf & Microfinance, Waqf & Bank and the last Waqf & Takaful model. The five models have different weight values.

Based on the ANP weight assessment, the first rank that is the top priority in implementing the waqf model is the Waqf & ZIS model with a weight value of 0.296. Furthermore, the second rank is Waqf & Sukuk with a weight value of 0.214. Then the third rank is Waqf & Microfinance with a weight value of 0.194. The fourth rank is Waqf & bank with a weight value of 0.164. Finally, Waqf & Takaful is the fifth priority and the weight value is 0.130.

The objective of the top-priority waqf model is Waqf & ZIS, which seeks to improve the welfare of humanity by preventing and solving social problems. This first model, which received a weighted score of 0.296, focuses on eliminating problems caused by social and economic conditions. Based on the models proposed in this study, it is found that the model with the largest social portion is the most important alternative waqf model with various roles that it can fulfill. Among the allocation forms of this model are assisting the provision of capital for social enterprises and seeking profit in order to be sustainable. On the other hand, the P-value result that shows a significant value can be interpreted that the order is quite valid and there is no debate among the respondents. This shows that the priority ranking order of alternative models has been agreed upon.

DISCUSSION

Waqf can play an important role in sustainable consumption and production patterns. In achieving this mission, the contribution of waqf can be very significant. Due to the importance of waqf in sustainable consumption and production patterns, various types of waqf can be applied with the aim of achieving targets related to consumption and production, including reducing waste production, reducing food losses throughout production, and efficient use of natural resources (Hamdani et al., 2021).

Achieving economic growth and sustainable development means that it is important to be aware of reducing the ecological footprint by producing and consuming food and other resources. Managing efficiency in the use of shared natural resources by removing toxic waste and pollutants is essential to achieving sustainable consumption and production goals. In addition, encouraging businesses and consumers to recycle and reduce waste is just as important as supporting developing countries to move towards sustainable consumption patterns by 2030. Nearly 2 billion people are hungry or malnourished while 1.3 tons of food is wasted every year. So it is important to cut global per capita food waste from traders and consumers in half to create more efficient production and supply chains. This can help maintain food security towards a resource-efficient economy. (Wildana and Manziliati, 2021).

The classic and ongoing problem of waste is experienced by most communities in rural, urban and industrial areas. In the field, waste is processed by the community in a practical and low-cost way, in this case processed by burning, disposal into the river, and collection to the nearest trash bin in bulk to the landfill.

The accumulation and mounding of waste in the landfill zone will slowly lead to a decline in hygiene quality and other problems. Waste piles that are crushed and covered by the *dumping* method, emit methane gas that accelerates global warming and climate change. Various studies conclude that the destructive power of the gas can reach 23 times that of carbon (Sony, 2010; Banowati, 2011). This is contrary to SDGs point 12 where waste

management is not sustainable and environmentally oriented which only solves the problem temporarily. So it is necessary to manage waste to support sustainable consumption and production patterns.

This research proposes a model to realize goal 12 of the SDGs, namely sustainable consumption and production patterns through waqf and ZIS schemes in sustainable organic waste management.

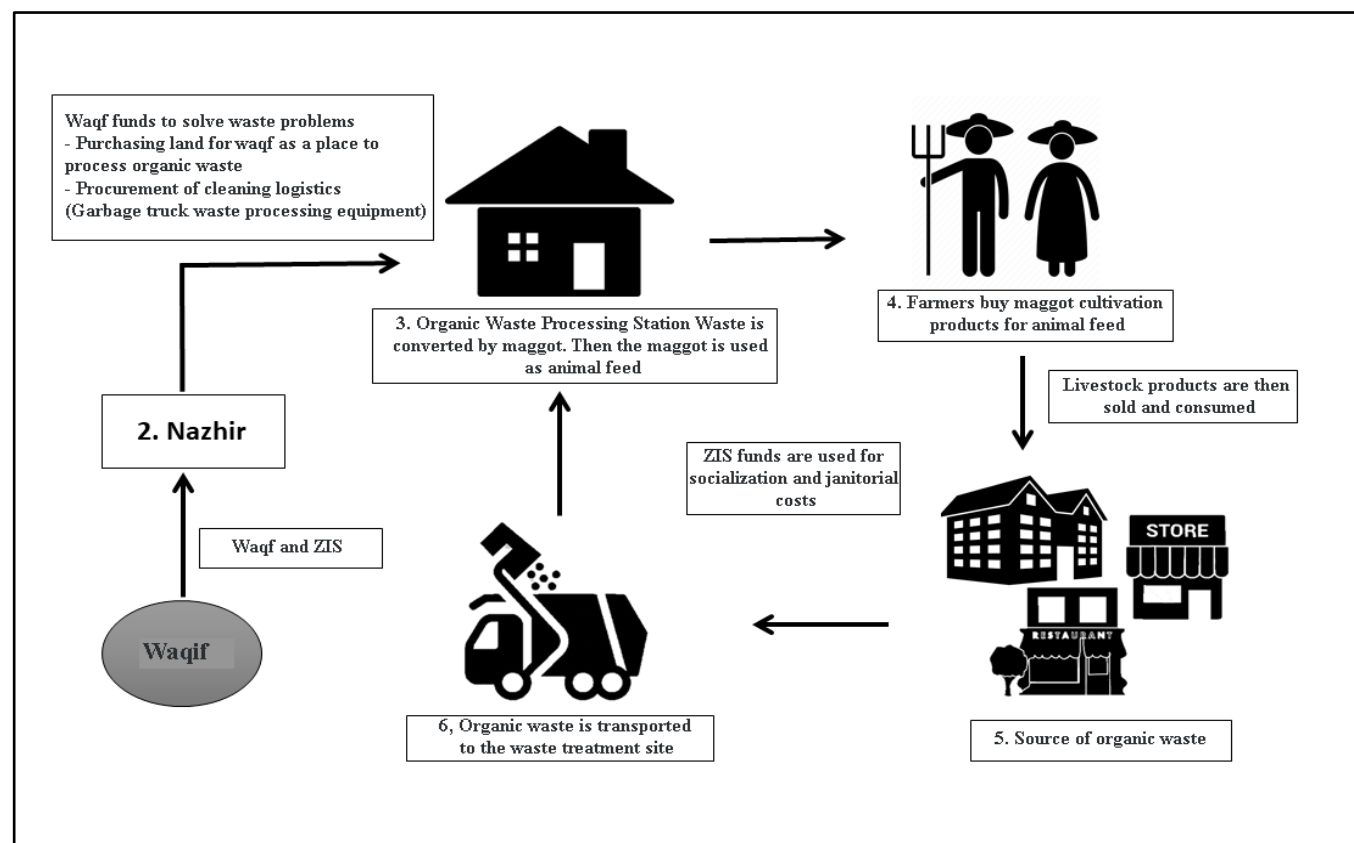


Figure 4 *Waqf and ZIS Model for Organic Waste Management*

In order to support the twelfth goal of the SDGs, namely sustainable consumption and production patterns, waqf can be optimized through ZIS collaboration in a sustainable waste management system. Based on the proposed model, there are several stages that are carried out.

The funding phase is based on cash waqf as an Islamic social fund instrument that has a sustainable nature that is relevant to the objectives of waqf, including sustainable consumption and production patterns. The allocation of waqf funds is intended for the purchase of land used for organic waste management and the need for supporting equipment such as garbage trucks and waste processing equipment. Furthermore, the ZIS instrument together with the income from the waqf fund is allocated to two parties, namely to finance socialization and the cost of cleaning staff and then

social projects and sustainable waste management. Both allocations are relevant to the goal of achieving the twelfth goal of the SDGs, namely sustainable consumption and production patterns.

In the next stage, after the establishment of the waste processing plant on the waqf land, the results of organic waste management will be turned into a product that has a selling value. In this case, maggot or BSF (*Black Soldier Fly*) flies are used to convert waste such as agricultural industrial waste, livestock and feces (Oliver, 2004). Maggot is an animal feed that has a high protein content of 40% (Ogunji et al., 2007). Maggot is expected to overcome the availability of feed and reduce environmental pollution. Maggot will be produced to be sold as animal feed to the community. The results of animal husbandry will be sold and consumed then some will become waste. Home, industrial, and self-service

waste will be transported to waste treatment plants for free until it is converted by maggots and will sustainably reduce environmental pollution due to organic waste. This is in line with SDGs goal 12 on sustainable consumption and production patterns.

The last stage, with the development of waste management carried out by the Nazir, the income from product commercialization and ZIS funds will be used to improve community welfare and sustainable waste management. In addition, various projects can also be implemented to reduce waste problems, protect terrestrial ecosystems, and increase livestock production. Based on these results, it is shown that in realizing the goal of sustainable consumption and production patterns, waqf can collaborate with ZIS instruments which are then used to finance various projects related to sustainable consumption and production patterns

CONCLUSION AND RECOMMENDATION

Waqf has relevance to the Sustainable Development Goals (SDGs) in realizing more sustainable development within the Maqashid Sharia framework. The top priority Maqashid Sharia criterion is the preservation of religion with a weight value of 0.175. This criterion is a form of Maqashid Sharia to protect Islam by having the right to embrace and believe that everyone can and has the right to embrace Islam and without interference. The most important SDG criteria based on priority ranking is the social criteria with a weight value of 0.364. This criterion specifically aims to end poverty and ensure that by 2030 all people enjoy prosperity.

Waqf models that fit these criteria can be applied using five alternative waqf models, where waqf can have a social role combined with a commercial role with different portions from one model to another. The Waqf & ZIS model is the best model in the alternative waqf models with a weight value of 0.296. This model is a type of waqf that is entirely social in nature, where waqf is collaborated with other social fund instruments such as zakat, infaq and shadaqah. The utilization of this alternative instrument is used for social purposes. The utilization of the Waqf & ZIS model in realizing SDGs point 12 in this study proposes that the model be used for waste management, which is the basic problem in point 12. The Waqf & ZIS model in this case is used to procure a waste processing site on waqf land, which is then used to process organic waste into maggot to be

produced and commercialized to the community as animal feed that has high nutrition.

After implementing various waqf models in accordance with their priorities, the realization of SDGs can become easier because there is waqf funding in it. The implementation of the five waqf models in accordance with their respective priorities in the maqasid sharia perspective has the potential to become an Islamic social fund instrument that supports the SDGs to ensure that all levels of society can enjoy a prosperous life and ensure economic, social and technological progress in harmony with nature.

Waqf activities must be integrated with the SDGs agenda. Therefore, policy makers in the economy including academics, practitioners, and regulators must begin to seriously develop and implement waqf models that are relevant to SDGs while taking into account Maqasid sharia. So that it can provide social benefits but also increase economic sustainability. Regulators should encourage and provide regulations and incentives that are in line with the needs of waqf institutions to implement an effective waqf model. Synergy is also needed between relevant authorities in synchronizing related regulations, providing education to the public. Further research is needed to refine and sharpen the waqf model launched for various institutions using different methods.

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