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Peat Restoration Based On Islamic Education
(Case Study in Banjarmasin, South Kalimantan)

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Abstract

The objective research; first, factual exploration related to peat problems and restoration concepts in the context of ecosystem recovery and sustainability. Second, Islamic educational perspective, strategic opportunities for the community in maintaining sustainability. And third, social participation based Islamic Education, involving the community in making peat restoration a success in Banjarmasin, South Kalimantan. The method used is a case study, comprehensively describing the activities developed in Banjarmasin in order to package concepts, strategies, methodologies, steps and sustainable programs by involving the community to actively participate in the form of a movement to maintain the sustainability of the peat ecosystem. The findings of peat as biodiversity, hydrological, carbon sink, and minimize carbon emissions need to be understood and made aware both personally and in the community in the form of an integrated and sustainable movement. From these findings, it can be concluded that community participation is the key to the success of the program developed by the government and effective community participation by taking an Islamic education approach for the Muslim community.

Keywords:
Peat; Restoration; Islamic Education.

Abstrak

Penelitian ini bertujuan, pertama, *factual exploration* terkait permasalahan gambut dan konsepsi restorasi dalam rangka pemulihan ekosistem dan keberlangsungannya. Kedua, *Islamic educational perspective*, peluang strategis masyarakat dalam menjaga keberlangsungan. Dan ketiga, *social participation base Islamic Education*, melibatkan masyarakat dalam mensukseskan restorasi gambut di Banjarmasin Kalimantan Selatan. Metode yang digunakan *case study*, mendeskripsikan secara komprehensif kegiatan yang dikembangkan di Banjarmasin dalam rangka mengemas konsepsi, strategi, metodologi, langkah dan program berkelanjutan dengan melibatkan masyarakat berpartisipasi aktif dalam bentuk gerakan menjaga keberlangsungan ekosistem gambut. Temuan gambut sebagai *biodiversity*, *hydrological*, *an-aerob carbon*, dan *minimalize emission carbon* perlu dipahami dan disadarkan baik secara prsonalitas dan komunitas dalam bentuk gerakan terpadu dan berkesinambungan.

Kata Kunci:
Gambut; Restorasi; Islamic Education.

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1. Introduction

The peat ecosystem is a divine gift to all His creatures in this universe, because it can store carbon emissions in the amount of 500-5,000/ton of carbon per hectare, depending on the depth of the peat which ranges from 0.5 to more than 12 meters, peat lands can absorb and store more carbon compared to tropical forests. (Krisnohadi, 2012) Peat has biodiversity for various flora and fauna (SUSANDI, OKSANA and ARMINUDIN, 2015) In fact, in the field, peat has been converted into plantation land and other needs by local policy makers, causing peat land to decrease significantly. Ideally, peat has a very strategic role in mitigating climate change and global warming with various important roles stated above, so the strategic role of the Islamic education approach to society in providing awareness, enlightenment, and development of responsible environmental behavior through Islamic preaching based on peat communities in the form of integrated training for preachers, religious teachers, community leaders by developing programs to care for peat and real efforts to carry out maintenance activities and maintain its sustainability, is an effective step taken as a movement to preserve peat in the future.

This problem has been widely researched, (Sudrajat and Subekti, 2019), Researched the peat ecosystem as one of the potential natural resources that are abundant with biodiversity. Management of peat land ecosystems as an effort to mitigate climate change so that if the peat ecosystem is maintained, climate change can be controlled. (Wibowo, 2009) Peat land damage is mainly due to logging and conversion of forests to other uses that cause drainage, compaction and subsidence, fires and reclamation. Research findings show that peat lands have a large carbon content, so peat plays a very important role as a safeguard for global climate change. (Masganti, Anwar and Susanti, 2020) illustrates the potential of more massive peat lands to supply food materials triggered by (1) the rate of conversion of agricultural land, (2) population growth, and (3) the desire to make Indonesia the world's food barn.

In this paper, the researcher tries to write something different from what was studied by the previous researcher above. The research above describes the peat problems currently being experienced by the Indonesian nation and the risk of global warming from burning carried out on peat lands, so the originality and novelty of this research are in the Islamic education approach in providing awareness, motivation, personal approach and community approach to the community in accelerating the national peat restoration movement being carried out by the Peat and Mangrove Restoration Agency (BRGM), as a state institution that is given a special task to carry out peat restoration with techniques and ideology.

Islam is a universal religion revealed by Allah SWT to humans through His Prophets and Messengers to save humans in this world and the afterlife. (Suhardin, Nurhayati, 2022) Islam provides guidance to humans, to be practiced, with that humans get happiness in life and progress in various dimensions of life.

All life is guided, guided, given guidelines that are universal, global, abstract, metaphorical, attraction and concrete activity, systematic, structured, measurable and integrated form. (Suhardin, 2019) Guidelines in the form of the real activity provide guidance on the procedures for worship (ritualistic) both more specifically in worshiping Allah SWT and in the form of doing towards humans and the environment, known as fighi. (Sabiq, 1365)

The guidelines that provide demands to humans in their attitudes, behavior and manners, civilized, speaking, speaking, communicating and interacting with creatures created by Allah SWT are called morals. (Suhardin, Hayadin, Sugiarti, 2021) Morals provide a link, a more maintained bond between creatures and their Creator, between creatures and their creations. (Ilyas, 2014) In doing good in all things, humans always rely on the Creator, so in a psychological context, a human being feels the presence of Allah SWT in all aspects of his life.

Humans feel that they are always being watched over by Allah SWT, complete with Allah's messengers called angels. Everything that humans do is accountable to Allah SWT. (Ilyas, 2014) The attitude and behavior in humans who are aware of Allah's supervision of themselves are known as ihsanan. Ubudiah that humans do towards Allah SWT and all the goodness that is done for the surrounding environment is as if humans feel the presence of Allah in front of, behind and beside themselves, even though humans do not see the presence of Allah SWT with the naked eye, but Allah SWT certainly sees and witnesses everything that is being done by humans.

Providing knowledge, understanding and appreciation of such things requires a methodology, a straight path, definite provisions, measurable steps to provide such appreciation, this is called education. (Nurlaeli Mafrukha, 2009) Education in this context is a transformation carried out to instill, embed and develop Islamic values in humans. (Muhdi, 2013) Education creates comprehensive goodness in humans in living life, fulfilling various needs, carrying out various obligations, and obtaining rights proportionally.

Education changes the mindset, thoughts, insight, knowledge, attitude, behavior, character and culture of humans towards a better direction, so as to achieve the ultimate good. (Baharun and Finori, 2019) Kindness that feels the presence of the creator in all the activities that are being carried out, so that with this attitude makes humans always on the path that is always blessed by Allah SWT. (Zulfatmi, 2020) Even if you make mistakes and negligence based on temptation and the inability to control your desires, you try to repent, regret the mistakes you have made, return to the right path, the path outlined by Allah SWT for humans, taken from the main guidelines of the Qur'an and As-Sunnah.

Mistakes made by humans make themselves shaken, feel guilty, because they are against their conscience, sometimes in the form of munkarat, deliberate denial of oneself, but regretted, there are also those whose mistakes make their faces tarnished, embarrassed to be known by others, because their actions are dirty and disgusting, called fahisa', all of these are forms of self-blame. (Husna, 2019) Doing environmental damage, throwing rubbish in the wrong place, destroying plants, burning vegetation, all of these are inappropriate and unsuitable activities for humans to do, but sometimes this becomes a habit, so education is the right thing to change these attitudes and behaviors.

Islamic education is not just about accustoming humans, but human habits are accountable to the creator of the universe. Thus, Islamic education is very effective in providing enlightenment to humans based on communities, accustoming themselves to doing good to the environment and preventing humans from doing things that are not right, appropriate and inappropriate to the environment, especially peat environments that have many benefits for mitigating global warming. All must be done in the form of a systematic integrated movement, programmed, and managed effectively and administratively by various social institutions involved in the peat environment.

Peat is a layer of green leafy plants formed from organic material that has accumulated over thousands of years in water-saturated conditions, which inhibits the decomposition of organic material. (Ramadhani, Destiarti and Syahbanu, 2017) Peat stores a large amount of carbon, much more than other terrestrial ecosystems such as tropical forests. The carbon stored in peat lands comes from dead vegetation that decomposes slowly under anaerobic conditions (without oxygen). (Purwanto and Gintings, 2011) This means that carbon can be stored in the soil for thousands to millions of years, making peat lands one of the most effective long-term carbon stores.

Peat lands have a very important role in the ecosystem, covering various aspects that impact the environment, biodiversity, hydrological cycles, and are very important for mitigating climate change.(Tetra *et al.*, 2018) The flora and fauna that live in peat lands often have special adaptations for the acidic, watery soil conditions, creating a highly bio-diverse ecosystem. Peat stores water during the dry season, helping to maintain river flows and groundwater balance.

Indonesia has approximately 15.5 - 18.5 million hectares of peat located on its 3 large islands, namely Sumatra, Kalimantan and Papua. Kalimantan is an island with a peat land distribution of 9.75 million ha or 52% of the total peat land distribution in Indonesia. Of the 9.75 million peat lands on the island of Kalimantan, South Kalimantan has 1.48 million ha or 15% of the peat land distribution on the island of Kalimantan and 8% of the peat land distribution area in Indonesia. (Krisnohadi, 2012)

Human activities such as land draining for agriculture or plantations, as well as fires can damage peat ecosystems. Peat is decreasing day by day. The incident of peat land fires that burn in South Kalimantan every year always has a different handling pattern and is not easy to do or manage, this is because peat land fires do not only occur on the surface of the land but because of its nature as a sedimentary land, fires also occur in the ground.

The process usually starts from a fire that occurs above the ground surface which then continues to spread to the inside of the peat land or to the subsurface area which is often called ground fire. Peat originating from organic materials continues to burn and produces white smoke. With the condition of the subsurface fire area, it is not easy to handle because the extinguishing must reach the area in the peat. Fires are one of the main causes of damage to the function of the peat ecosystem, in the last six years there have been 1,053 hotspots recorded in the Peat Ecosystem Area in South Kalimantan. 2015 was the year with many hotspots monitored with a total of 460 hotspots, while in 2011 and 2014 were years with hotspots reaching more than 200 points. (Annisa and Nursyamsi, 2011)

Peat land restoration with modern technology is carried out with the approach and method of restoring damaged or degraded peat ecosystems; first, rewetting, using barrier structures such as dams to close drainage canals that have dried peat lands so as to restore water-saturated conditions to the peat, pumping water into peat lands to increase water levels and maintain land humidity. (Sudrajat and Subekti, 2019)

Second, remote sensing, using satellites, drones, and airplanes to monitor peat land conditions in real-time. The data obtained is used to identify areas in need of restoration and monitor the progress of restoration projects. GIS (Geographic Information System) technology, maps and analyzes spatial data for peat land restoration planning and monitoring. (Dr. Ir. Hayu Susilo Prbowo, 2024)

Third, planting native vegetation, replanting native plant species that are typical of peat ecosystems, such as ramin trees, jelutung, and various types of swamp grass. This vegetation helps stabilize the soil and increases carbon storage. Using modern technology to multiply and distribute native plant seeds that are resistant to peat land conditions. (SUSANDI, OKSANA and ARMINUDIN, 2015)

Fourth, bio composites and biomaterials, using natural materials such as coconut fiber or rice husks to stabilize peat lands and support the growth of new vegetation. Applying engineering methods such as creating water retention basins or terracing to manage water flow and prevent erosion. Fifth, developing digital platforms to increase community participation in peat restoration. Through applications and websites, communities can report land conditions, participate in restoration activities, and get the latest information. Using technology to organize education and training programs for local communities on the importance of peat restoration and effective ways to participate.

In addition, a community approach is also needed by providing counseling, education and character development to the community. (Suhardin, Arifin, Tohirin, Kamarul Mufid, 2023) Extension workers, religious teachers, community leaders and religious leaders in the peat environment need to be invited to discussions, provide competency strengthening on peat, so that they can interact and provide guidance to the community not to do bad things to peat, let alone engineering and burning peat lands. Including this also needs to be strengthened in students, by strengthening character towards caring and loving the environment.

Education is based on humans, personal, family and community, education sharpens feelings, cultivates body and soul, spreads knowledge, trains skills and instills hope so that students get and obtain self-ability (competence), show, display self-ability in a real and useful way (skills) and have standards (measures) of ability and expertise in the form of certified standardization. Education seeks to provide a number of Islamic values to humans to be used as self-competence in aspects of personality, ability, expertise (skills), professionalism. (Suhardin, 2020)

Islamic education is not only about providing self-competence and professionalism, but more fundamentally to a perfect personality, embodying Islamic values in all aspects of life, both universality, specificity and professionalism. Islamic education provides provisions for humans to do good and go towards the best for their own lives, families, environment and the

surrounding nature. Islamic education instills the monotheism of Allah in the bonds of theology, transformed into ethics, morality, consolidated in the form of ritualistic, regulated in worldly transactions connected to the creator in the form of transactions. (S. Suhardin, 2020)

The Islamic education approach instills and develops universal, specific, unique and integrative Islamic values into humans based on personality, community and heterogeneity to work together, compete in infinite goodness to restore peat, carry out rewetting, remote sensing (monitoring), planting native vegetation, developing digital platforms and mobilizing all citizens to participate based on religious education motivation, who are aware that everything that is done for the benefit and sustainability of peat is a form of obedience to Allah SWT, and the implementation of good morals. (Dr. Ir. Hayu Susilo Prbowo, 2024)

Islamic education based on enlightenment with a community approach that is programmed, integrated, systematic, coordinated and administered neatly, neatly and transparently will be able to carry out the mission of Islam that is friendly, loving, caring, responsive, concerned, responsible and developing responsible environmental behavior by upholding environmental-based morality (environmental-ethic), developed with a real curriculum in communities in the middle of peat lands, involving all components of civil power (citizenship) legally and formally under the command of BRGM together with community leaders.

2. Methods

The research aims: first, factual exploration, exploration, peeling, and explaining in depth related to peat problems and restoration concepts in the context of ecosystem recovery and its sustainability. Second, Islamic educational perspective, how is the perspective of Islamic education on peat and the strategic opportunities of the community in maintaining sustainability. Third, social participation based Islamic Education, how to involve the community in making the government's program to restore peat a success, in the form of active participation, programmed, planned, with an Islamic education approach, enlightenment based on the local community in an organized, systematic, sustainable and continuous manner especially in the Banjarmasin locus, South Kalimantan.

This research design is a case study, a study of cases that have occurred, or are being faced and are being carried out. (Hidayat, 2015) namely an in-depth study of something different or unique that exists in a particular group, institution or individual. Case Study, is a study of a case where each process is carried out in detail, sharply, and deeply. (Bhat, 2023) From the case study, it is expected that researchers will gain in-depth knowledge about the case being studied. The case being studied should usually be something that is currently happening (actual), not something that has passed and must be truly specific or “unique”. (Moleong, 2011). In this study, the researcher tries to describe, construct, disseminate, and narrate the Islamic education approach in implementing peat restoration in Banjarmasin, South Kalimantan and Kubu Raya, West Kalimantan.

Procedures carried out: (1). Determining the problem topic in the research, in this research, the Islamic education approach in providing motivation, encouragement and reinforcement for community members to participate in

supporting and together with the government carrying out the peat restoration movement, as part of biodiversity that can support the sustainability of the ecosystem in a sustainable manner (sustainable ecosystem); (Stake, 1995) (2). Conducting a literature review related to peat as biodiversity in an ecosystem that has multiple functions: water absorption, complexity biodiversity, carbon sink, eco-tourism: (3). Conducting a review of Islamic education literature from the perspective of a practical and implementation approach in providing motivation, encouragement and reinforcement to community members in providing participatory support in the form of a peat care movement and peat restoration in order to develop environmental sustainability (sustainable environmental); (Hidayat, 2015) (4) Formulate a methodology in the form of a case study with systematic, gradual steps, integrated into propositions, narratives and expositions: (Walter R. Borg, 2007) (5) Collecting qualitative and quantitative data in field observations, Banjarmasin and Kuburaya, as two places used as research loci, developing, implementing practical Islamic education in providing encouragement, motivation and reinforcement to community members to support the government's program to restore peat to create a sustainable environment: (6) Data processing by trying to sort qualitative and quantitative data. Qualitative data is attempted to be coded, tabulated and disseminated. Quantitative data is attempted to be distributed and analyzed: (Suhardin, 2023) (7) Exposition, description, reporting on the substance of the actual case related to the Islamic education approach to the community in encouraging active participation in supporting the government's program to restore peat for environmental sustainability: (Sugiyono, 2008) (8) In-depth analysis related to the effectiveness of Islamic education in providing community-based enlightenment to encourage citizens to actively participate in accelerating the government's program for peat restoration to support environmental sustainability: (Muhadjir, 2002) (9) Carrying out generalizations regarding the effectiveness, role and urgency of Islamic education in providing community-based enlightenment to actively participate in supporting the acceleration of the government's program to restore peat lands in the context of environmental sustainability; (Nazir, 2003) (10) Providing practical recommendations in the form of practical guidelines and guidelines for conducting training by packaging an Islamic educational approach in providing enlightenment to residents to actively participate in accelerating government programs in peat restoration for environmental sustainability. (Emzirt, 2012)

The subject of the research was conducted by researchers together with a team consisting of the Peat and Mangrove Restoration Agency (BRGM) together with the Environmental and Natural Resources Improvement Institute of the Indonesian Ulema Council from Jakarta and from Banjarmasin and Kubu Raya, each of which has its own function and role. BRGM finances activities based on work programs and institutional function tasks. The Indonesian Ulema Council as the khadimul Ummah compiles and develops activities for approaches, counseling, guidance and training for the people of Banjarmasin and Kuburaya. The object and subject of this research are the people of Banjarmasin and Kuburaya who are given education, enlightenment, guidance and training with an Islamic education approach to encourage them to actively participate in accelerating peat restoration which is being developed by the government, in this

case as the leading sector of the Peat and Mangrove Restoration Agency (BRGM).

All procedures carried out in this research are based on guidelines, guidelines and procedures outlined in the research methodology, data collection and analysis carried out based on morality and upholding applicable ethics.

The data of this study consists of qualitative data. Qualitative data contains processes, abstract descriptions captured in the atmosphere of education, teaching, training and mentoring of residents with an Islamic education approach in enlightening residents to actively participate in accelerating peat restoration in Banjarmasin, South Kalimantan. Data collection was carried out through participatory research, researchers directly involved and participated in the activities carried out, so that they understood and experienced the atmosphere of the transformation that was developed.

The data obtained, collected, coded, classified, tabulated, disseminated, and presented, so that researchers find data and data validity, by trying to carry out the process of triangulation, transformation, dependency and credibility of data sources.

Data analysis is done by understanding, interpreting, and exploring patterns, themes, and meanings in non-numerical data, such as interviews, observations, field notes, or text documents, so that researchers provide in-depth understanding of phenomena, are flexible in their analytical approaches and can capture the context and nuances of the data.

3. Result and Discussion

Peat lands play a very important role in carbon emission minimization (reducing carbon dioxide emissions) because of their nature as large natural carbon stores. Peat lands are formed from organic matter that has accumulated over thousands of years in water-saturated conditions, which inhibits the decomposition of organic matter. Peat stores large amounts of carbon, much more than other terrestrial ecosystems such as tropical forests.

Banjarmasin, South Kalimantan, has a significant peat land area. The peat area is around 619,286 hectares (based on data from Wetlands International). Most of the peat is included in the shallow to medium category, with a depth of around 0.5 to 4 meters. Located in large river basins (DAS) such as the Barito DAS and its tributaries.

The potential of peat can be seen ecologically (ecology), carbon storage, peat lands function as the largest carbon absorber and store. One hectare of peat land can store up to thousands of tons of carbon, making it effective in mitigating and helping to reduce greenhouse gas (GHG) emissions. Peat acts like a sponge, absorbing water in the rainy season and releasing it in the dry season, helping to reduce the risk of flooding and drought. It is a habitat for endemic species such as proboscis monkeys, water birds and peat plants.

Economically, peat can be used for cultivating suitable plants, such as sago, purun, jelutung, and pineapple. Peat can also be used for nature-based tourism activities. Development of commodities such as forest bee honey, swamp fish, and purun fiber for handicrafts.

Because of the large potential of peat lands, people are interested in utilizing and converting them for agricultural and plantation land, especially oil palm and food crops. This use often causes peat to dry out, which reduces its

ecological function. Shallow peat areas around Banjarmasin are used for residential development, although they are susceptible to land subsidence. Logging of trees in peat forests for firewood or building materials often occurs, especially in areas that are not officially managed. Excavation of peat lands for the construction of roads and canals has caused drying and fires in several areas.

Due to continuous drying, the surface of the peat land sinks by several centimeters per year, increasing the risk of flooding in lowland areas such as Banjarmasin. Degraded peat lands release large amounts of carbon. In South Kalimantan, peat damage is estimated to contribute carbon emissions of 200 million tons of CO2 per year. Peat fires in South Kalimantan in 2019 reached 315,000 hectares, most of which were peat lands.

Peat land damage data, the area of degraded peat, of the total 619,286 hectares of peat land in South Kalimantan, more than 50% have been degraded due to conversion and exploitation. BNPB (National Disaster Management Agency) data shows that South Kalimantan, including the Banjarmasin area, is one of the provinces with the highest peat fire rates in Indonesia.

Loss of ecological function, most of the shallow peat around Banjarmasin has lost its natural ability to store carbon and water due to long-term exploitation. Economic and Health Losses, smoke from peat fires in 2019 resulted in economic losses reaching trillions of rupiah and caused more than 900,000 cases of ARI (Acute Respiratory Infection) in the Kalimantan region, including Banjarmasin.

In 2015, there were quite high and large forest and land fires, prompting the government to take serious steps to save the peat ecosystem. The Peat and Mangrove Restoration Agency (BRGM) is a government agency that focuses on restoring peat and mangrove ecosystems in Indonesia, including areas such as Banjarmasin. The legal entity for the establishment of this institution, Law No. 32 of 2009 concerning Environmental Protection and Management; PP No. 71 of 2014 in conjunction with PP No. 57 of 2016 concerning Protection and Management of Peat Ecosystems; Presidential Instruction No. 5 of 2019 concerning Termination of Issuance of New Permits in Primary Forests and Peat.

Peat restoration efforts are carried out with a comprehensive approach involving strategy, legal basis, and implementation at the community level. First, strategic steps for peat restoration with three pillars of restoration (3R): (1) rewetting, increasing peat land humidity through the construction of canal blocks, drilled wells, and hydrological management; (2) revegetation, restoring the ecological function of peat by planting local species such as jelutung, ramin, and typical swamp plants; (3) economic revitalization, improving the welfare of local communities through ecosystem-based programs such as paludiculture.

Second, peat mapping and zoning, identifying priority locations for restoration based on the level of damage and fire risk. Determination of protected zones for peat with a depth of more than 3 meters. Third, multi-stakeholder collaboration, involving central and regional governments, local communities, academics, and the private sector in the restoration program. Cooperation with international organizations for funding and technology.

Third, monitoring technology, using satellite imagery and drones to monitor the success of restoration and detect fire threats early. Fourth, public education and awareness. Community education programs on the importance of peat ecosystems and sustainable management.

BRGM also has the task of accelerating mangrove rehabilitation in 9 (nine) provinces, namely North Sumatra, Riau, Riau Islands, Bangka Belitung, West Kalimantan, East Kalimantan, North Kalimantan, Papua, and West Papua. The Peat and Mangrove Restoration Agency (BRGM) is tasked with completing peat restoration targets in 7 (seven) provinces, namely Riau, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan and Papua, as well as mangrove rehabilitation in 9 (nine) priority provinces for mangrove rehabilitation, namely North Sumatra, Riau, Riau Islands, Bangka Belitung, West Kalimantan, East Kalimantan, North Kalimantan, Papua and West Papua. In addition to restoring peat lands covering an area of approximately 1.2 million hectares, BRGM also has the task of accelerating mangrove rehabilitation covering an area of 600,000 hectares from 2021 to 2024. With the large performance targets as mentioned above, BRGM considers it necessary to involve the participation of the community or other stakeholders in its various activities so that the implementation of peat restoration and mangrove rehabilitation can be carried out properly. Environmental conservation or preservation efforts have so far been carried out using a scientific approach and explained in academic language that is often difficult for the general public to understand. The Deputy for Education and Socialization, Participation and Partnership in carrying out its role related to education, socialization and training views that religious approaches can increase public understanding and participation as an effort to protect peat ecosystems. Therefore, the Mosque-Based Peat Care Da'i Training was held as an effort to protect peat ecosystems through a religious approach, especially Islam. The Mosque-Based Peat Care Da'i Training was conducted to improve the competence of Da'i in terms of environmental protection da'wah, especially peat ecosystem protection and management, and actively play a role as a figure who builds environmentally friendly behavior through religious activities in their respective regions. This training will later provide understanding to Peat Care Da'i regarding the understanding of peat ecosystems, values, Islamic teachings in environmental management, especially peat, sermons based on peatland ecosystems, delivery of legal fatwa values on land burning and climate change to da'wah materials and other peat-related techniques.

The Islamic Education approach to build public awareness about the role of society in accelerating the government's peat restoration program is carried out with a local training activity package centered in Banjarmasin involving community leaders in Banjarmasin and brought in from the Central Indonesian Ulema Council in this case the Institute for Environmental and Natural Resources Improvement (LPLH&SDA MUI Center). The materials provided include first, internalization of Islamic values in the management of the Peat Ecosystem, delivered directly by Dr. Ir. H. Hayu Prabowo, M. Hum., this material emphasizes the responsibility of a believer towards the environment. Humans are responsible for the environment, because they are the mandate of Allah SWT as caliphs. The task of the caliphate requires humans to always carry out da'wah amar ma'ruf nahi munkar, teach humans through persuasion, education, and communication towards the path that is approved by Allah SWT, carry out systematic prevention to not do things that are not approved by Allah, such as damaging the environment and destroying peat habitats, and be more proactive in maintaining and developing the acceleration of peat restoration that is being planned by the government.

Also part of the caliphate's duties is to maintain the balance of nature (at-tawazun), so that nature has equilibrium, between components in the ecosystem get rights and carry out their roles and functions in the environment. Then it is also necessary to protect the environment (hifdzul bi'ah) protecting the environment including protecting aspects of human life as a whole, because the environment is one of the sources of life that must be preserved.

The role of individuals in the environment as Muslims, requires active participation, in the form of sadaqah, for the maintenance of peat forests. Giving alms is a form of collective responsibility given to humans who believe in Allah SWT and maintain His creation.

The second material provides an understanding and socializes the MUI fatwa regarding forest and land fires and climate change. This material was delivered directly by Ustad Dr. Abdul Hayyie al-Kattani, M. A. Belia explained the basics of making fatwas both related to forest fires and global warming. The MUI fatwa related to forest fires is clear and firm, burning forests and land that can cause damage, environmental pollution, loss of others, health problems, and other bad impacts, is forbidden. Likewise, regarding global warming, it is clearly emphasized by the MUI, all actions that cause environmental damage and have an impact on the crisis are forbidden.

This is a guideline, guideline and standard for believers in carrying out activities in interacting and working in the midst of the environment. Nature is a friend of humans that needs to be glorified, preserved and maintained its existence, treated fairly.

The third material, includes material and sermon materials that need to be packaged and packaged by preachers in delivering sermon and lecture materials in the midst of the congregation containing information, motivation, guidance to the congregation to do something for the benefit of the environment, supporting the government's program to accelerate peat restoration. In this activity, each participant practices directly giving a sermon containing material, content of Islamic values that provide education to the community to participate in preserving the peat ecosystem.

This study provides a complete picture to all readers related to efforts, steps, comprehensive descriptions of Islamic education approaches in carrying out transformation, enlightenment, movements, programmed, integrated, organized, systematic in carrying out strategic agendas in packaging Islamic education to encourage, guide and direct communities around peat lands to provide an important role in maintaining the welfare of peat lands, part of environmental welfare. This movement involves various components of society, both environmental activists, environmentally conscious communities, community leaders, religious leaders, ustad, ulama, muballigh, teachers of the Koran and all parties involved in providing enlightenment to all communities to care about the peat environment.

Public concern for the peat land environment is built by providing knowledge related to the existence, role, function and interests of peat related to the environment in general. (Rusdina, 2015) Peat has a strategic role in maintaining environmental balance (equality), (Dwi Eriyanti, 2017) *biodiversity*, (Sifwatir Rif'ah, 2019) *hydrologic*, (Wibowo, 2009) *save carbon emission* and *carbon emission minimization* and *eco-tourism*, (Sifwatir Rif'ah, 2019) *eco-farming*. (Suhardin, 2016) The community is required to ensure and maintain the sustainability of the peat ecosystem in a sustainable manner. This effort certainly

requires complete knowledge and real role models shown by figures around the land.

Collective awareness is built through intervention, education, personalization, communication, interaction by developing various programmed, structured, conceptualized, and scheduled events continuously, sustainably in the form of equality, without instructions, orders and threats to the community. (Suhardin, Tohirin, Erwina, 2024) The involvement of community leaders, informal leaders is very strategic to actualize this step. So that this becomes a movement, a real action agenda, no longer a government program, but active participation of the people in maintaining peat sustainability.

The steps taken are at least visible in two things, first, the movement steps by trying to collect, bind, coordinate, and consolidate all stakeholders related to the sustainability of peat lands. Interested parties in formal and political aspects are carried out in the legality agenda by developing national and regional regulations. Second, developing teaching modules, campaign materials, popular scientific books, leaflets, social media containing religious values that provide confirmation to all parties to remain steadfast in attitudes and behaviors that are responsible for the environment (responsible environmental behavior), peat damage has a systemic impact not only in the local environment but also has an impact on the regional, national and international. So this is embedded as a form of self-awareness in each individual which transforms into collective awareness (community awareness), thus giving rise to the desire of self and community to do the best things in peat preservation.

The effectiveness of various programs that have been and are being developed by BRGM together with the Environmental and Natural Resources Improvement Institute (LPLH&SDA) of the Indonesian Ulema Council (MUI) needs to be studied further as a continuation of this research.

4. Conclusion

Peat is a type of ecosystem that has multiple functionalities in the environment, biodiversity, hydrological, anaerobic carbon, and greenhouse gas mitigation. In addition, peat has the potential to be used as eco-tourism and eco-farming, so it requires strong, integrated and sustainable management with the involvement of all parties in the form of social movements in the community that coincide with the acceleration of restoration being developed by the Peat and Mangrove Restoration Agency (BRGM). The development of concepts, teaching modules, and local training activity guides as part of the Islamic education approach in conducting community-based enlightenment is very strategic and needs to be packaged by BRGM together with LPLH & SDA MUI at the locus targeted by BRGM.

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