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Waqf as a Sustainable Solution: Addressing Climate Change Impacts on Real Estate Through Perpetual Endowment and Community Benefit

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ABSTRACT

Climate change presents risks to real estate through extreme weather, rising sea levels, and shifting climate patterns, affecting property integrity, market value, and maintenance costs. Traditional responses are often short-term, whereas waqf, a concept of perpetual endowment for communal benefit, offers a sustainable alternative for managing real assets. This study explores the potential of waqf in mitigating climate change impacts on real estate, emphasizing its role in promoting resilience and sustainability. Using a qualitative approach, the study analyzes governing statutes, reported cases, and administrative data. Findings reveal waqf properties can support environmental sustainability by designating land for green spaces, conservation, or sustainable agriculture. These uses help buffer against climate-related disasters, protect nearby real estate, and maintain property values. Additionally, waqf income can fund climate adaptation projects, such as infrastructure upgrades and energy-efficient retrofits. Despite its promise, challenges like legal and administrative constraints, limited awareness, and capacity gaps must be addressed. Overall, waqf principles of sustainability and long-term stewardship can enhance real estate resilience and support sustainable urban development.

Keywords: Best Practices; Perpetuity; Real Estate; Sustainability; Waqf

INTRODUCTION

Global warming affects numerous businesses, including real estate. Hurricanes, floods, and wildfires are increasing, threatening property. Flooding from sea-level rise might damage and devalue coastal structures. Sustainability-focused stakeholders have increased the requirement for energy-efficient structures to lessen real estate development's environmental impact.

Real estate in ASEAN is at risk due to its geography and economy. Southeast Asia is particularly vulnerable to climate change, including severe weather, rising sea levels, and flooding (Asian Development Bank, 2017). From 2008 to 2018, the area had an average of 50 climate-related disasters each year, affecting millions of people and causing significant economic damage (United Nations Office for Disaster Risk Reduction, 2019). This region includes Malaysia, which faces similar risks. 60% of Malaysians live along the shore, making them exposed to rising sea levels and coastal flooding (DOSM, 2020). Thus, climate change has major effects on Malaysian real estate. Due to increased hazards and uncertainties, coastal and flood-prone properties may lose value (Beltran et al., 2018; Bin et al. 2008). The National Hydraulic Research Institute of Malaysia (2019) predicted that a 0.5-meter sea level rise might cause significant land loss and property destruction, affecting 1.5 million at-risk residents. Floods and tempests are expected to increase in frequency and intensity, threatening buildings and infrastructure (Malaysian Meteorological Department, 2020). The Intergovernmental Panel on Climate Change (IPCC) also notes that rising greenhouse gas emissions are altering weather, sea levels, and temperatures. The analysis shows that global surface temperature has risen by 1.1°C over pre-industrial levels (1850-1900), making the previous decade the warmest on record. The study emphasizes that human activities have increased climate change at a rate not seen in 2,000 years (IPCC, 2021). Real estate is especially vulnerable to these climatic shifts, which are changing ecosystems and socioeconomic structures. Understanding climate change's effects on real estate, especially in vulnerable regions like ASEAN and Malaysia, is essential for developing resilient and risk-reducing policies. To address these issues, the real estate sector has implemented robust infrastructure, building code changes, and strategic urban design. Climate change mitigation policies are essential for investment protection and real estate sector sustainability (Economic Planning Unit, 2021). However, typical real estate market responses are generally reactive, providing insufficient short-term remedies.

From another perspective, waqf emphasizes everlasting endowment and communal benefit, making it a proactive, comprehensive real estate management strategy. Through sustainability and long-term stewardship, waqf can reduce real estate value losses. Waqf properties can be used for green spaces, conservation, and sustainable agriculture. Waqf assets can protect surrounding real estate and property values from climate-related disasters by maintaining natural environments. Waqf can also fund climate adaptation and mitigation measures, boosting climate resilience. This may involve infrastructure upgrades, energy-efficient building measures, and sophisticated early warning systems. Waqf sites can be used for sustainable agriculture to improve soil and biodiversity or as urban green spaces to absorb carbon dioxide and prevent urban heat islands (Rahmadany, 2024).

There is little few research on waqf's role in mitigating climate change due to legal and administrative hurdles, lack of knowledge, and the need for capacity building. Thus, this study examines how waqf can mitigate climate change's effects on real estate and improve resilience and sustainability. This detailed study seeks to provide helpful insights: (1) The article discusses the use of waqf principles to mitigate climate change

impacts on real estate and promote resilience and sustainability in the sector, and (2) Certain countries have developed best practices to mitigate climate change impacts on real estate by utilizing waqf, or endowment.

The current study adds to the limited literature on waqf's everlasting endowment and communal welfare to mitigate climate change's effects on real estate. A thorough theme analysis provides useful scholarly perspectives, especially in the underexplored Malaysian setting. The study also seeks to understand how waqf, or endowment, has helped some nations mitigate climate change's effects on real estate. The study adds to the knowledge base and guides future research and improvements in this subject. This paper's literature review covers real estate, climate change, and waqf in Malaysia. To understand the present state of knowledge in this field, it examines relevant research, studies, and publications. The literature review also examines climate change and real estate, waqf's everlasting nature, and real estate sustainability and waqf. This section discusses the research findings and their consequences in depth. The report concludes with concluding notes that highlight major findings and address research limitations. This section also suggests future research areas to advance the field.

LITERATURE REVIEW

Impact of Climate Change on Real Estate

Global climate change affects several industries, including real estate. Extreme weather, increasing sea levels, and changing climate patterns affect real estate. The ASEAN area and Malaysia are especially affected due to their distinct geographical and economic characteristics.

Climate change has increased typhoons, floods, and heat waves. ASEAN nations are suffering significant economic consequences from these events. Natural disasters cost ASEAN member states USD 86.5 billion in 2020, with extreme weather events contributing significantly (ASEAN, 2021). Annual monsoon floods in Malaysia have caused significant property damage, with the 2021 floods costing RM 1.2 billion (Malaysian Department of Statistics, 2022). Extreme weather events damage properties and infrastructure, raise insurance costs, and lower property values in sensitive areas. For instance, properties in flood-prone areas are destroyed and lose desirability owing to perceived hazards. Coastal houses are threatened by rising sea levels. If greenhouse gas emissions continue, global sea levels could rise by 1.1 meters by 2100, according to the Intergovernmental Panel on Climate Change (2021). Indonesia, the Philippines, and Vietnam, all having long coastlines, are vulnerable in ASEAN. Research suggests that a 1-metre sea level rise might relocate 48 million ASEAN residents and submerge significant coastal real estate (Asian Development Bank, 2017). With a long coastline and lowlands, Malaysia is vulnerable to these risks. Coastal cities like George Town and Kota Kinabalu risk property and infrastructure damage. The National Hydraulic Research Institute of Malaysia (2021) estimates that a 0.5-meter sea level rise might cost coastal homes RM 4.5 billion. Climate variations, including temperature and precipitation, affect real estate markets by changing site desirability and usefulness. For instance, rising temperatures can increase cooling costs and lower home and business comfort. Variations in precipitation patterns affect water availability and agricultural output, affecting rural and suburban real estate values. By 2050, Malaysian climate estimates predict 1.5 to 2.0 degrees Celsius higher average yearly temperatures (Malaysian Meteorological Department, 2020). These changes may worsen urban heat island phenomena, making cities less habitable and devaluing property values. Modified rainfall patterns could cause water scarcity, reducing the appeal of water-dependent communities.

To address these issues, the real estate sector has implemented robust infrastructure, building code changes, and strategic urban design. Climate change mitigation policies are essential for investment protection and real estate sector sustainability (Economic Planning Unit, 2021). Traditional real estate market responses are generally reactionary, resulting in unsatisfactory short-term solutions. Real estate markets' typical reactions are insufficient, as properties and cities remain vulnerable to climate-related threats. For instance, strengthening robust infrastructure is a good start but often fails to address climate change's rapid and unpredictable character (IPCC, 2022). Though necessary, building code updates are typically implemented late or in pieces, failing to include the newest scientific discoveries and predictive models (National Institute of Standards and Technology, 2020). Strategic urban planning is crucial, although it often struggles with development patterns and revitalizing older urban areas (Urban Land Institute, 2019). These techniques are also reactive and generally implemented after disasters, limiting their efficacy (Gopegui, 2021). This reactive approach focuses on immediate, visible difficulties rather than structural vulnerabilities, resulting in remedies that cannot withstand climatic effects (United Nations Environment Programme, 2021). The illustration is depicted in Figure 2.1 below.

Figure 1. Impact of Climate Change on Real Estate

In short, climate change has major effects on several industries, including real estate. Extreme weather, increasing sea levels, and changing climate patterns affect real estate. The ASEAN area and Malaysia are especially affected due to their distinct geographical and economic characteristics. Infrastructure improvements, construction code modifications, and urban planning are significant real estate market responses to climate change, but their reactive nature and short-term focus often result in inadequate solutions. To prevent climate change's effects on the real estate sector, proactive and comprehensive policies must include long-term sustainability and resilience planning.

Concept of Perpetuity in Waqf

Waqf is an Arabic word that means *al-habs*. It is an infinitive noun that conveys the concept of halting, preventing, or restraining. When applied to assets such as land, animals, and other possessions, it signifies the suspension of property rights for specific advantages derived from the property (Ibn Manzur, 1414). Essentially, waqf involves immobilizing the property corpus while reaping benefits from it, akin to a tree and its produce (Ibn Qudamah, 1968).

There is a notable disparity among Muslim jurists regarding the technical definition of waqf. The prevailing definition among contemporary Muslim jurists asserts that waqf ownership, as stipulated in Islamic law, is vested in Allah in perpetuity. Furthermore, waqf must adhere to the core principle of safeguarding the integrity of the property corpus and the principle of flexibility in distributing benefits from the corpus to draw individuals closer to Allah (al-Zuhayli, 2012). Monzer Kahf characterizes waqf as the action of holding specific property and safeguarding it solely for the benefit of specific charitable causes while prohibiting any utilization or disposal of it for purposes beyond that specific objective (Kahf, 1998). This definition seems to link the essence of the property to the intended purpose of the waqf. For purposes of standardization, the Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI), a non-profit entity comprising contemporary Muslim scholars, defines waqf as the action of rendering a property immune to any transfer of ownership through disposition, and apportioning the benefits of that property to designated beneficiaries (AAOIFI, 2015).

One key attribute of waqf is its perpetuity. Al-Bukhari (1422) narrates that Umar bin al-Khattab endowed the Khaybar land with the condition that it would remain unsold, ungifted, and non-bequeathed. This narration emphasizes the necessity for waqf to be perpetual, a quality not demonstrated in the mentioned case (Al-Dubyan, 1432). It is unanimously agreed upon by Muslim jurists that real estate, due to its enduring nature, is an ideal waqf subject (Mohammad and Mar Iman, 2006). While some scholars argue for the perpetuity of the subject regardless of its movability, others like Abu Yusuf and Muhammad Hasan of the Hanafi school believe in the indispensability of perpetual dedication (Al-Zuhayli, 2012). The intention lies in the perpetuity of dedication, while the object's perpetuity is subject to interpretation (Mohammad and Mar Iman, 2006). Despite these differences, the overarching goal remains the same, which is ensuring the long-term benefit and sustainability of the waqf.

The literary work highlights several deficiencies that impede its comprehensive comprehension and practical implementation. A notable inadequacy lies in the restricted scope and profundity of current research. Most material focuses on waqf as a religious and social tool or climate change and real estate resilience technicalities. The use of waqf's perpetual principles to promote sustainability and climatic resilience in real estate seems untested. There are few multidisciplinary studies that combine Islamic finance principles with environmental issues (Ismail et al., 2023). A large majority of the present research is theoretical, missing empirical studies and case studies showing waqf's practical implementation and results for climate resilience. This theoretical bent makes it difficult to assess waqf-based real estate sustainability interventions. Empirical research helps uncover best practices, challenges, and scalability (Kahf, 2014). The research's geographical and cultural limits are another drawback. The Middle East and Southeast Asia are where most waqf studies are done. There is little research on waqf implementation in distinct real estate markets with different climate concerns. The findings are limited by this constraint and do not address how waqf could be adapted to diverse cultures and environments (Ihsan & Ibrahim, 2011). The literature rarely analyses governmental frameworks and regulatory settings that enable or hinder waqf inclusion in real estate climate resilience solutions. Understanding legal and institutional contexts is essential for creating robust frameworks to support waqf's actual application in real estate sustainability. This oversight leaves regulatory hurdles and facilitators unaddressed, leaving practical implementation techniques lacking (Cizakca, 2000). The waqf perpetuity rhetoric frequently seems disconnected from the sustainability narrative. Although the notion of perpetuity in waqf harmonizes effectively with the concept of long-term sustainability, the existing literature inadequately delves into the operationalization of these principles in modern real estate practices to combat climate change. There is a pressing requirement for more intricate analyses and models that illustrate how

perpetuity can be practically implemented to bolster resilience and sustainability outcomes (Newell & Marzuki, 2007). The delineation of the insufficiency in the discourse regarding climate change mitigation in the real estate sector through the perpetual concept of waqf and sustainability is expounded in Table 1.

Table 1. Insufficiency of Waqf Perpetual And Sustainable Discourse Addressing Climate Change Impact On Real Estate

Inadequacy	Description
Limited scope and depth of existing research	Most literature focuses on waqf as a religious and social instrument or on technical aspects of climate change and real estate resilience. The intersection of these fields for sustainability and climate resilience in real estate is underexplored. Lack of interdisciplinary studies integrating Islamic financial principles with contemporary environmental challenges.
Predominantly theoretical literature	Existing literature lacks empirical studies on waqf for climate resilience while difficult to assess the impact of waqf-based interventions in real estate sustainability. Moreover, empirical research is crucial for identifying best practices and scalability.
Geographical and cultural limitations	Research on waqf focuses on traditional regions like the Middle East and Southeast Asia. Literature scarcity on applying waqf in diverse real estate markets with different climate risks limits generalizability and adaptation to various contexts.
Lack of analysis of policy frameworks and regulatory environments	The literature lacks analysis of policy frameworks and regulatory environments affecting waqf integration in real estate climate resilience. Understanding legal contexts is vital for developing frameworks to enhance real estate sustainability. Regulatory barriers and enablers are not adequately addressed, leaving a gap in implementation strategies.
Disconnection between perpetuity principles in waqf and contemporary sustainability discourse	Discussion on perpetuity principles in waqf disconnected from contemporary sustainability discourse. The literature lacks exploration of these principles in real estate practices to address climate change. Need for detailed analyses and models showing practical application of perpetuity for resilience and sustainability.

In essence, waqf protects property against ownership transfer, enriches beneficiaries, and ensures sustainability. Waqf's capacity to mitigate climate change's effects on real estate is limited in the literature. Addressing these issues requires interdisciplinary research, empirical studies, policy analysis, and practical models. The strategy would show how waqf can support climate-friendly real estate development.

RESEARCH METHOD

The qualitative study analyses literary works thematically. This method helps explain complex occurrences by investigating how people interpret their activities and interactions. By using qualitative data, the research captures the subtleties of human behavior and social dynamics, providing thorough and insightful insights. Thematic analysis helps academics identify and evaluate data patterns to draw important conclusions about the themes and concepts.

RESULTS

Perpetuity and Climate Change Mitigation: The Potential of Waqf

The eternal nature of waqf means it cannot be exchanged, inherited, or gifted. This ensures the long-term impact of programs, especially climate change ones. Islamic finance promotes environmental protection through waqf. The objective of waqf is to deliver communal advantages and address the challenges of climate change. It leverages Islamic finance for the conservation of the environment. Waqf has the potential to mitigate the repercussions of climate change.

First, climate change mitigation needs large, persistent financial expenditures in reforestation, renewable energy, and sustainable agriculture. Traditional financing methods sometimes fail to provide long-term support. Waqf might be crucial here. Waqf assets for environmental initiatives may maintain climate change mitigation efforts by providing ongoing benefits (Kahf, 2014). A waqf endowment might fund urban green space maintenance and expansion. Waqf money may subsidize tree planting, parks, and natural environments. This reduces heat island effects and improves air quality, sequestering carbon dioxide and strengthening urban resilience to climate change (Mahamood, 2007). Ali and Kassim (2020) note that waqf property may be used to grow carbon sink plants that store atmospheric CO2. This method mitigates climate change, maintains biodiversity, and prevents soil erosion. Durability of waqf safeguards environmental benefits. Pusparini et al. (2020) suggest using waqf money to develop drought-resistant crops and water management technologies in harsh climates to maintain agricultural productivity. This increases food security and lowers agricultural climate risk.

Waqf can help climate-damaged people heal. Shakhtar and Hanaysha (2021) recommend utilizing waqf money to build flood barriers and cyclone shelters and give urgent help following natural disasters. Community resilience grows with prevention and response. Waqf promotes sustainable development by reducing climate change. The UN Sustainable Development Goals address climate change (UN, 2015). Waqf, which promotes social and economic justice, may support renewable energy, sustainable cities, and climate action SDGs. Waqf property profits may finance climate adaptation and mitigation. Waqf funding may improve severe weather infrastructure resilience, energy-efficient building retrofits, and natural disaster early warning systems (Cizakca, 2000). Additionally, waqf may fund green energy initiatives. Waqf endowments may maintain wind and solar turbines. Building renewable energy infrastructure with energy sales creates a self-sustaining environmental loop (Dusuki, 2008). Azwar (2023) promotes waqf investments in solar, wind, and other renewable energy projects to reduce fossil fuel consumption and greenhouse gas emissions. These investments may mitigate climate change using renewable energy.

Waqf also develops climate change mitigation tech. Scientists and engineers studying greenhouse gas emission reduction may get scholarships and research from endowments. Innovation and extensive technology use are ensured (Shirazi, 2014). Waqf groups may fund climate change and environmental scientific institutes, Sadeq (2002) found. Environmental education helps students fight climate change and live sustainably. Waqf governance provides ethical and prudent asset management. Mutawalli (trustees) manage waqf assets under Islamic law, making them vital. This provides openness, accountability, and community and environmental benefit from waqf activities (Kahf, 1998). Waqf can minimize climate change's impacts on real estate, as seen in Table 2:

Table 2. Potential Of Waqf In Addressing Climate Change Impacts On Real Estate

Aspect	Details	Source

Role of Waqf in Climate Change Mitigation	Provides sustained financial backing for reforestation, renewable energy, and sustainable agriculture, as well as ensuring the continuous influx of benefits for enduring climate change endeavors.	Kahf, 2014
Urban Green Spaces	Green spaces may be preserved and expanded by waqf endowments. This includes tree planting, park creation, and habitat protection. By reducing heat islands and improving air quality, such endowments strengthen urban resilience.	Mahamood, 2007
Tree Planting	Waqf property may be used to grow carbon-sink trees. This approach sequesters carbon dioxide, preserves biodiversity, and reduces soil erosion.	Ali & Kassim, 2020
Agricultural Support	Directs endowment funds towards crops that are resilient to drought and promotes efficient water management, which sustains agricultural productivity and bolsters food security.	Pusparini et al., 2020
Disaster Management	Helps climate-damaged communities recover. The fund's climate-resilient infrastructure like flood barriers and cyclone shelters and community resilience via proactive prevention and response.	Shatar & Hanaysha, 2021
Sustainable Development Goals (SDGs)	Aligns with SDGs on renewable energy, resilient urban development, and climate change mitigation while promoting social well-being and economic inclusiveness.	United Nations, 2015
Infrastructure Resilience	Supports energy-efficient building modifications and enhanced early warning systems to adapt infrastructure to harsh weather.	Cizakca, 2000
Renewable Energy Projects	Waqf endowments finance solar panels, wind turbines, and other renewable energy projects, creating a self-sustaining loop of environmental benefits and reducing fossil fuel consumption and greenhouse gas emissions.	Dusuki, 2008; Azwar, 2023
Research and Development	Scholarships and research grants for climate change mitigation technologies promote environmental science and climate change education, innovation, and information sharing.	Shirazi, 2014; Sadeq, 2002
Governance and Management	Ensuring the judicious and ethical management of waqf assets, the role of mutawalli (trustee) guarantees transparency, accountability, and alignment with community and environmental objectives.	Kahf, 1998

In short, waqf properties may boost local property prices by protecting natural environments. Real estate near well-kept green spaces or conservation zones is more desirable, keeping its value. This economic element shows waqf's environmental and economic benefits. Waqf aids climate change mitigation because of its longevity. Waqf may fund long-term ecological, renewable energy, research, and development projects by delivering a steady stream of benefits. Ethical and transparent waqf asset management improves climate change mitigation. Thus, the waqf system may help mitigate climate change and encourage environmental care in line with Islamic philanthropy.

DISCUSSION

Challenges in Integrating Waqf, Climate Change, and Real Estate

Integrating waqf into real estate climate change mitigation is complicated by legal and administrative impediments, a lack of understanding, and the need to increase capacity. To employ waqf assets for climate resilience and sustainable real estate, many challenges must be solved.

Legal and administrative barriers prevent waqf inclusion in real estate climate change mitigation. Waqf properties are maintained and used inconsistently because of complex legal frameworks that vary by jurisdiction. Different countries' waqf rules might make environmental waqf property design and administration problematic. Bureaucratic slowness may prohibit waqf holdings from being used for environmental objectives (Dafterdar, 2011). Waqf policies in many countries are obsolete and don't address urban planning or sustainability (Brahimi & Ben-Hamouche, 2023; Mohamad et al., 2012). Legal constraints may prevent the adaptive reuse of waqf assets for green initiatives due to the lengthy administrative processes required to alter property use (Thaker et al., 2018, 2020). The power imbalance between government and religious authority overseeing waqf properties makes climate action and real estate development difficult to coordinate. These difficulties are exacerbated by stakeholders' ignorance about waqf's real estate development climate change mitigation potential. Sustainable property management is unknown to many waqf administrators and beneficiaries (Abd Mutalib & Maamor, 2016). Waqf institutions cannot participate in climate-resilient real estate developments due to this information gap. Support for waqf's social development function is low due to public ignorance. For collaboration and creativity, stakeholders must learn about waqf, climate action, and sustainable real estate (Nasr, 2015). Capacity training is needed to improve waqf, climate change, and real estate integration. Waqf managers, lawmakers, and real estate developers learn sustainable practices and legal frameworks during capacity building. Strategic waqf property management strategies may aid stakeholders in legal and green initiatives (Idllalene, 2021). To ensure locals understand and support sustainable waqf programs, capacity building should involve the community. Waqf properties can become climate-resilient assets that assist sustainable urban development with technical and institutional expertise.

Waqf, climate change, and real estate must be integrated through legal and administrative hurdles, awareness, and capacity building. Waqf properties need legal and administrative reform to be viable. Share waqf's climate action potential with stakeholders to encourage cooperation and community support. Sustainable waqf property management requires capacity-building. Overcoming these challenges may help waqf improve climate resilience and sustainable real estate development.

Best Practices From Indonesia

Indonesians want to combine Islamic beliefs with environmental conservation to govern and preserve the environment (Rahman & Jalil, 2021). Waqf-based waste management may improve sustainability in Indonesia (Riani, 2024). Islamic sustainable development is based on sustainable waqf, which promotes social justice and environmental protection (Zawawi, 2023).

Muslim environmental groups like the Indonesian Ulama Council (MUI) Fatawa have helped address Indonesia's developing environmental challenges (Mangunjaya & Praharawati, 2019). Islamic boarding schools (pesantren) may help students acquire environmental awareness and sustainable habits, underlining the necessity to integrate environmental education into religious teachings (Nazar, 2024). Eco-Pesantren shows how Islamic boarding schools can easily use environmentalism to achieve sustainable development (Anabarja & Mubah, 2021). Islamic boarding schools like Eco-Pesantren

can promote sustainability and conservation by fostering eco-friendly cultures (Safei & Himayaturohmah, 2023).

Waqf is also employed for environmental conservation, showing a growing sustainability awareness (Sukmana & Rusydiana, 2023). Community woodlands on waqf holdings absorb carbon and feed locals through sustainable forestry (Ali & Kassim, 2020). Reforestation programs sponsored by waqf have shown potential in combating Indonesia's major environmental issue, deforestation. Community-based waqf efforts have restored forests and boosted local economies through sustainable agriculture and eco-tourism, according to Black and Opfer (2019). Through local communities, waqf manages the environment long-term. Islamic funding may reduce Indonesian CO2 emissions and boost green efforts (Iskandar et al., 2020).

Indonesia's climate adaptation policy includes waqf-funded coastline conservation. Indonesia's 80,000 km coastline renders it vulnerable to rising seas. The Indonesian Waqf Board and government are restoring mangroves on waqf land. This restoration naturally prevents coastal flooding and erosion (BWI, 2020). Water conservation is another waqf environmental effort. Waqf projects have developed reservoirs and irrigation networks in water-scarce areas (Shaikh et al., 2017). These measures ensure stable agricultural and domestic water supplies, minimizing reliance on natural water reserves and encouraging conservation. Waqf and modern environmental concepts spark sustainable development innovation. Waqf funds solar and wind energy research (Kasdi et al., 2022). These measures minimize carbon emissions and give locals energy independence and resilience. Traditional waqf and modern environmental technology promote holistic sustainable development. Finally, waqf education matters. For preservation and sustainability, waqf funds environmental education. These programs teach environmental stewardship in schools, universities, and communities (Sukmana & Rusydiana, 2023). Waqf ensures future conservation by teaching environmental values.

Finally, waqf's ongoing endowment and community benefits may mitigate climate change's consequences on real estate. Islamic ethics and environmental preservation in Indonesia show waqf-based models' resilience. Eco-Pesantren and community-driven replanting show waqf's sustainability potential. Waqf supports ecological sustainability through coastline conservation, water management, and renewable energy research. Waqf combines ancient waqf principles with current environmental technology to achieve environmental stewardship in sustainable development. Waqf-supported educational programs promote environmental care, ensuring future preservation and sustainability efforts.

CONCLUSION

Extreme weather, increasing sea levels, and changing climatic trends threaten the real estate sector. These dangers increase maintenance and insurance expenses and lower property value. Traditional real estate market reactive methods rarely solve basic issues and provide temporary solutions. Waqf's continuous endowment and community benefits make it a proactive and comprehensive climate change-related real estate management strategy.

This study suggests that sustainable waqf management may reduce climate change's detrimental effects on real estate values. Waqf assets can be used for environmental sustainability, according to qualitative examination of primary and secondary sources, including legislation and instances. Green landscapes, conservation zones, and sustainable agriculture shield property from climatic hazards. Waqf can promote climate adaptation and mitigation by reinvesting profits in climate resilience projects.

Infrastructure upgrades, energy efficiency retrofits, and early warning systems may be needed. These programs preserve property value and promote urban sustainability. Although beneficial, waqf's engagement in climate change activities is problematic. To maximize waqf's potential in this situation, legal and administrative hurdles, misunderstanding, and capacity development are needed.

Future research should use pragmatic frameworks to tackle these issues. Legal reforms to facilitate waqf's usage in climate resilience, awareness campaigns, and successful waqf properties for environmental sustainability might provide significant insights. Additional research should evaluate how waqf-supported climate adaptability affects local real estate markets and communities financially. Future research may reveal how waqf might encourage climate-resilient and sustainable real estate development.

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