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Urban Forest Conservation Through the Lens of Ecological Exegesis: An Analysis of Surah Qaf: 9–11

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Abstract

The escalating urban environmental crises, such as flooding and air pollution, demand beyond mere technical interventions; they require robust ethical-theological frameworks. While existing Islamic eco-theology predominantly discusses general environmental ethics, there is a distinct research gap in operationalizing specific Qur'anic verses into practical urban spatial policies. Therefore, this study aims to bridge classical theological interpretations of Surah Qaf: 9–11 with the modern regulatory concept of Green Open Space (RTH). Employing a qualitative library research design, this study utilizes the thematic exegesis (maudhu'i) approach formulated by Al-Farmawi. The primary data, sourced from authoritative classical commentaries (Ibn Kathīr, al-Rāzī, and Ibn 'Ashūr), were systematically analyzed using Abdullah Saeed's textual-contextual framework to synthesize classical theology with contemporary urban hydrology and microclimate science. The results indicate three key findings: (1) mā'an mubārakan (blessed water) aligns with sustainable urban hydrology and water security principles; (2) jannāt (gardens) serves as the theological equivalent of urban forests, functioning as vital ecosystem buffers and microclimate regulators; and (3) rizqan lil-'ibād (sustenance for servants) frames conservation not merely as a biological need, but as a socio-economic and spiritual mandate (amānah) for human stewardship (khalīfah). The novelty of this research lies in its specific formulation of "Ecological Piety," shifting the discourse from normative ethics to practical policy application. Ultimately, this study contributes a spiritual-ethical foundation for policymakers and fosters active community engagement in sustainable urban governance.

Keywords: Urban Forest; Ecological Exegesis; Surah Qaf; Thematic Tafsir; Ecological Piety.

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Introduction

Environmental deterioration represents a significant phenomenon in urbanized regions. In megacities like Jakarta, the confluence of deteriorating air quality, the paucity of green open spaces, severe water pollution, and the proliferation of infrastructure creates adverse consequences for ecological stability as well as human well-being [1]. The ecological crisis constitutes not merely a technical predicament but pertains to moral and spiritual dimensions which necessitate an approach from a religious perspective [2]. The ecological crisis represents not merely a sinful act but environmental degradation will tarnish the substance of authentic religiosity, and indirectly negates the purpose of human existence on the face of the earth. Within Islam the Quran references the occurrences of natural phenomena and fauna to admonish the vicegerents on earth namely humankind regarding the accountability for ecological preservation and other beings such as animals [3]. Humankind possesses a fundamental role in environmental conservation, subsequent to all elements residing within its sphere being designated to humans [2]. This perspective is reinforced by Bensaid (2023), who emphasizes that Islamic spiritual eco-education is essential for cultivating a sense of stewardship (*khalifah*) [4]. He argues that environmental responsibility is not merely a social duty but a spiritual discipline, where protecting nature is an act of preserving the divine signs (*āyāt*) entrusted to humanity.

The endeavor to revitalize and conserve the earth – manifested through reforestation, constructive development, the rehabilitation of degraded environments, and the strict avoidance of destructive practices – is imperative. Given that the cultivation of the earth (*imarah al-ard*) is intrinsic to the mandate of the Khalifah (vicegerent), these preservation efforts are fundamentally conceptualized as a manifestation of ibadah (worship) to Allah [5]. The Qur'an elucidates the intrinsic interconnection between Divine mercy (*rahmah*), ecological cycles, and the sustainability of life, as vividly depicted in Surah Qaf (50): 9–11.

وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبْرَكًا فَأَنْبَتْنَا بِهِ جَنَّاتٍ وَحَبَّ الْحَصِيدِ ۙ وَالنَّخْلَ
بُسْبُتٍ لَهَا طَلْعٌ نَضِيدٌ ﴿١٠﴾ رِزْقًا لِلْعِبَادِ وَأَحْيَيْنَا بِهِ بَلْدَةً مَيْتًا كَذَلِكَ الْخُرُوجُ ﴿١١﴾

"And We have sent down blessed rain from the sky and made grow thereby gardens and grain for the harvest, and lofty palm trees having ranged clusters, as provision for the servants, and We have given life thereby to a dead land. Thus is the Resurrection." (Surah Qaf [50]: 9–11).

The aforementioned verses elucidate the bounties of Allah, manifested through the precipitation of abundant rain that cultivates gardens and revitalizes barren or dead land—acts that serve as tangible reflections of Divine mercy (*rahmah*) [6]. Implicit within this scriptural narrative is a fundamental imperative for humanity to preserve the natural world. Furthermore, the text underscores a critical ecological message regarding the necessity of maintaining ecological equilibrium and the conscious responsibility to safeguard the existing natural order [7]. The ecological message encapsulated in Surah Qaf (50): 9–11 advocates for environmental protection through the efficient management of rainwater and exhorts humanity to actively engage in forest conservation. Forests play a pivotal role in human survival; they serve as a primary source of oxygen generation and function as critical carbon sinks, sequestering a significant portion of anthropogenic carbon dioxide emissions.

Furthermore, in Surah Al-A'raf (7): 56, Allah explicitly forbids ecological degradation, commanding: '*Do not cause corruption upon the earth after its reformation.*' The text employs the term *tufsidu* (derived from *fasad*), which denotes corruption in a comprehensive sense, particularly given that Allah has bestowed natural bounties, such as forests, to sustain life [8]. In his exegetical commentary on this prohibition, Sheikh asy-Syaukani elucidates that 'causing corruption on the earth' encompasses a broad spectrum of destructive acts [9]. These include homicide, the destruction of dwellings—whether human habitations or animal habitats—unjustified killing of fauna, indiscriminate deforestation, and river pollution caused by waste disposal or industrial effluents, collectively these actions are classified as acts of disobedience (*ma'siyah*) against Allah.

Urban forests occupy a pivotal role within metropolitan landscapes. Nuraeni et al. (2024) highlight that as a critical component of the urban ecosystem, their presence extends beyond the mere provision of clean air; they actively mitigate extreme thermal conditions (microclimate), sequester pollutants, and serve as essential ecological buffers [10]. Legally, this ecological role is formalized in Government Regulation No. 63 of 2002, which defines an urban forest as a unified ecosystem containing biological resources dominated by trees, where natural elements are inextricably linked [11]. Furthermore, these forests serve as a critical natural defense against hydrological disasters [12]. Maharani (2025) notes that the recurring incidence of flooding in Indonesia is largely attributable to anthropogenic factors, specifically the failure to sustainably manage vegetation and the reduction of water infiltration areas.

Although the discourse on Qur'anic ecotheology has gained significant traction, existing scholarship predominantly focuses on general environmental ethics or conservation in broad contexts. For instance, studies by Aripin (2025)

[13], and Al Fikri et al. (2025)[14], discuss the human-nature relationship and theological obligations for preservation extensively, but they do not specifically address urban spatial challenges[15]. There is a notable scarcity of scholarship that contextualizes the exegetical analysis of Surah Qaf (50): 9–11 within the specific technical framework of urban forest conservation (*Hutan Kota*) as regulated in modern urban planning.

Therefore, the primary objective of this study is to fill this gap by bridging the classical theological interpretation of *jannāt* (gardens), *mā'an mubārakan* (blessed water), and *rizqan lil-'ibād* (sustenance for the servants) with the modern regulatory concept of Green Open Space (Ruang Terbuka Hijau/RTH). Unlike previous studies that stop at normative ethics, this research attempts to operationalize these theological values—specifically the concept of nature as divinely guaranteed sustenance requiring preservation—into the practical discourse of urban flood mitigation and air quality management [16]. This approach offers a distinct novelty by positioning the Qur'an not just as a source of ethical inspiration, but as a conceptual guide for sustainable urban policy.

Based on the background and the identified research gap above, this study formulates three main research questions to guide the analysis:

1. How do authoritative classical exegetes interpret the ecological concepts found in Surah Qāf verses 9–11?
2. How can the concepts of *mā'an mubārakan* and *jannāt* be contextualized within the framework of modern urban forest conservation?
3. What are the theological implications of *rizqan lil-'ibād* for human responsibility (*khalifah*) in ensuring environmental sustainability?

Corresponding to these questions, the specific objectives of this research are: (1) to explore the classical interpretations of the ecological concepts in the verses, (2) to contextualize these interpretations within modern urban forestry frameworks, and (3) to formulate the theological implications of human responsibility (*khalifah*) in environmental sustainability.

Method

This study employs a qualitative method with a library research design, utilizing the thematic exegesis (*maudhu'i*) approach as formulated by Al-Farmawi (1977) [17]. This framework allows for a comprehensive reconstruction of the Qur'anic worldview on ecology by synthesizing verses related to specific themes rather than analyzing them in isolation.

Data Sources The data sources are divided into two categories to support the integrative analysis:

1. **Primary Data (Exegetical Sources):** The primary interpretation of Surah Qaf: 9–11 is derived from authoritative classical (turāth) commentaries to ensure theological validity. Key sources include Tafsir Ibn Kathīr (for textual/riwayah analysis), Tafsir al-Kabir by Fakhr al-Dīn ar-Rāzī (for theological-rational analysis), and Tafsir al-Tahrir wa al-Tanwir by Ibn ‘Ashūr (for maqāṣid/purposive analysis). These figures were selected to represent the continuity of the Sunni exegetical tradition.
2. **Secondary Data (Scientific & Regulatory):** To facilitate contextualization, supporting data are drawn from Government Regulation (PP) No. 63 of 2002 concerning Urban Forests and recent scientific articles (2020–2025) published in reputed journals focusing on urban hydrology and ecology.

Data Collection Technique Data collection followed a systematic documentation technique aligned with Al-Farmawi’s procedural steps:

1. **Identification:** Inventorying verses in Surah Qaf related to ecological terms (mā’an, jannāt, rizqan) to establish the thematic scope.
2. **Exploration:** Extracting interpretations from the selected classical commentaries to define these terms linguistically and theologically, ensuring the original meaning is preserved.
3. **Correlation:** Gathering parallel data from modern urban planning literature to identify points of relevance and functional similarities with the classical interpretations.

Data Analysis Procedure To meet the requirement for methodological transparency and modern relevance, the data were analyzed using a Textual-Contextual Analysis procedure adopted from Abdullah Saeed’s (2006) 'Contextualist' framework [18]. This approach necessitates connecting the linguistic analysis of the text with the contemporary socio-historical context, comprising four steps:

1. **Textual Interpretation:** Analyzing the classical exegetical views to establish the core theological meaning of mā’an mubārakan (rain/water) and jannāt (gardens).
2. **Scientific Confirmation:** Examining modern ecological data (e.g., water absorption rates, carbon sequestration) that scientifically affirms the descriptions found in the classical tafsir.
3. **Contextual Synthesis:** Synthesizing the classical meaning with modern Urban Forest regulations. For instance, interpreting the classical concept of Jannāt as the theological equivalent of "Green Open Space" (RTH) in modern spatial planning.

4. Conclusion Drawing: Formulating the concept of "Ecological Piety" based on the synthesis of text and context.

Validity The validity of the findings is maintained through inter-textual cross-checking, ensuring that the contextualization does not deviate from the core principles established by the classical exegetes while remaining relevant to contemporary scientific findings.

Result and Discussion

Ecological Interpretations in Classical Exegesis: *Mā'an Mubārakan* and *Jannāt*

Fundamentally, the Quran frequently references non-human living organisms, ranging from fauna to flora. Furthermore, it assigns the names of plants, animals, insects, and other elements as titles for various Surahs, such as *al-Nahl* (The Bee), *al-An'ām* (The Cattle), plants, and *al-Ḥadīd* (Iron) [19]. Allah employs these metaphors and animal names within the Quran to admonish humanity, urging them to effectively guard, care for, and conserve these entities by maintaining the natural ecosystem.

Surah *Qāf*, the 50th chapter of the Quran, is classified as a *Makkiyah* Surah comprising 45 verses, revealed in Mecca prior to the *Hijrah* of Prophet Muhammad ﷺ. Regarding its structure, Surah *Qāf* commences with the *huruf muqatta'ah* (disjointed letter) "Qāf"; one of its core themes involves Allah elucidating the process of natural growth in verses 9-11:

وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبْرَكًا فَأَنْبَتْنَا بِهِ جَنَّاتٍ وَحَبَّ الْحَصِيدِ وَالنَّخْلَ بَسِطًا لَهَا طَلْعٌ
نَضِيدٌ رِّزْقًا لِلْعِبَادِ وَأَحْيَيْنَا بِهِ بَلْدَةً مَّيْتًا كَذَلِكَ الْخُرُوجُ

In his exegesis regarding Surah Qaf: 9-11, Imam Ibn Kathir elucidates the phrase (وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبْرَكًا) as the act of Allah sending down rain from the sky that is "blessed," interpreted as possessing immense utility and benefit. Regarding (فَأَنْبَتْنَا بِهِ جَنَّاتٍ), he explains that from this precipitation, vegetation flourishes, evolving into gardens, orchards, and forests. The subsequent phrase (وَحَبَّ الْحَصِيدِ) refers to harvestable grains produced by these plants, specifically those capable of being preserved for extended periods. Furthermore, (وَالنَّخْلَ بَسِطًا لَهَا طَلْعٌ) describes date palms characterized by their towering stature, while (نَضِيدٌ) depicts palms bearing spathes (fruit clusters) that are meticulously arranged in layers. Every element of creation initiated by this rainfall serves as

(رِزْقًا لِلْعِبَادِ) a provision for His human servants. Ibn Kathir further expounds on (وَأَحْيَيْنَا بِهِ بَلْدَةً مَّيْتًا), stating that Allah revitalizes the earth that was previously arid and desolate. Upon sending down this blessed rain, by His decree, the earth sprouts a diverse array of lush vegetation and flora that are aesthetically captivating—transforming a once barren landscape devoid of life into one of verdant biodiversity. Finally, Allah affirms His Omnipotence through the analogy (كَذَلِكَ الْخُرُوجُ), signifying that the mechanism by which dead earth is revived parallels the manner in which Allah will resurrect the dead on the Day of Judgment [20].

Imam Ibn Kathir, in his commentary on Surah Qaf (50): 9–11, explains that Allah sends down blessed rain to bring life to dead land, initiating the growth of vegetation and gardens that develop into forests with deep roots, lofty trunks, and abundant foliage. After describing the revival of the earth, Allah explicitly identifies these bounties as *Rizq* (provision) for His servants [21]. This signifies that human existence is fundamentally dependent on nature for sustenance. Therefore, the text conveys an implicit directive regarding the necessity of environmental stewardship: humans are obligated to preserve the ecosystem and protect it from degradation.

In Surah Al-Baqarah (2): 29, Allah declares: 'It is He who created for you all of that which is on the earth.' Explicating this verse, Wahbah al-Zuhaili asserts that Allah is the sole Creator who brought into existence all earthly entities specifically for the benefit of humanity. This divine provision grants humans the privilege to utilize all resources, ranging from fauna and flora to inanimate matter and other elements [22]. Humanity is mandated to actualize its function of *khalifah* (vicegerency) through active solicitude, conservation, and maintenance, while upholding justice and eschewing arbitrary dominance over all created beings [23]. Adhering to these principles fosters a harmonious relationship between humanity and the natural world, thereby generating positive, mutually reinforcing outcomes for both.

In his comprehensive commentary on Surah Qaf: 9–11, Imam Ibn 'Ashur explicates that (مَاءٌ مُّبْرَكًا) refers to water containing *barakah*, signifying 'immense benefit,' as it is the catalyst for the growth of flora ranging from gardens to forests. Ibn 'Ashur notes that in the previous verse (Verse 7), Allah mentions vegetative growth only generally (*mujmal*). The elaboration in the subsequent verses serves as a divine indication for humans to reflect upon the processes of creation through their causes [24]. Since Allah did not create these elements abruptly or

purposelessly, this deliberate creation implies a duty for humans to safeguard the natural order.

Linguistically, the term (جَنَّتِ) serves as the plural form of (جَنَّةٌ), denoting a landscape of greater density and expanse, encompassing vegetation such as vineyards, date palms, and a diverse array of arboreal species. The term (وَحَبٌّ) signifies grains, referring specifically to agricultural crops that yield seeds serving as staple sustenance such as wheat, maize, legumes, rice, and other beneficial grain varieties. Furthermore, the phrase (وَالنَّخْلَ بَسِطَتْ) describes date palms characterized by their lofty, erect trunks and root systems that penetrate deep into the earth [24]. The specific citation of these biological attributes is intended to demonstrate the absolute perfection of Allah's creation.

Ibnu 'Ashur's overall interpretation provides a detailed examination of specific phrases, revealing a strong nexus with ecological principles wherein Allah depicts creation as a balanced and regulated system. Rain is identified as the primary catalyst for life, enabling the proliferation of trees and plants that produce fruits and grains resources that constitute vital provision for humans and animals alike. This plant diversity contributes to ecosystem stability, where different species, despite having distinct roles, function in a complementary manner to sustain the environment.

In his exegesis regarding Surah Qaf: 9-11 – specifically the verses

(وَنَزَّلْنَا مِنَ السَّمَاءِ مَاءً مُّبْرَكًا فَأَنْبَتْنَا بِهِ جَنَّاتٍ وَحَبَّ الْحَصِيدِ ۙ ٩)

Imam Fakhr al-Din al-Razi elucidates that this passage functions as a semiotic reference (*isyārah*) supported by other scriptural evidences (*dalīl*), encompassing cosmic phenomena within both the celestial and terrestrial realms. He posits that Allah precipitates rain from the sky, facilitating the growth of diverse vegetation. Linguistically, the term (فَأَنْبَتْنَا) denotes the active process of botanical sprouting and subsequent development. Regarding the phrase (وَحَبٌّ), al-Razi interprets this as Allah's creation of orchards yielding harvestable crops without necessitating the destruction of the parent plant; these plants possess a perennial nature, capable of bearing fruit on an annual or biannual basis. Furthermore, the description (وَالنَّخْلَ بَسِطَتْ) highlights the biological distinctiveness of date palms compared to other arboreal species, specifically noting that their fructification is contingent upon the pollination of their blossoms [25]. Finally, interpreting (رَزَقْنَا الْعِبَادَ), al-Razi asserts that Allah generates fruits via these vegetative processes to serve as essential sustenance for His servants.

Contextualizing *Jannāt* as Urban Forests: A Hydrological and Microclimate Perspective

From a linguistic perspective, as defined in the dictionary *Mu'jam al-Ma'ani*, the term (مَاءٌ) denotes water. [26] However, when examined within the specific context of the verse, the term refers to rainwater. Morphologically, according to *Mu'jam al-Ma'ani*, the word (مُبْرَكًا) is classified as a passive participle (ism maf'ūl) derived from the verb (بَارَكَ), denoting the semantic meaning of 'blessed' or 'endowed with divine benediction' [26]. Imam Ibn al-Qayyim (may Allah have mercy upon him) elucidates the concept of *barakah* as 'abundant goodness.' He observes that the descriptor *mubārak* is juxtaposed with water specifically because the descent of rain precipitates the emergence of manifold benefits upon the earth [27]. In contemporary Islamic jurisprudence, this 'blessing' is interpreted as ecological sustainability [28]. Basir Mohamad and Ismail (2023) argue that the preservation of water quality is a religious obligation, where the 'goodness' of water is maintained by preventing pollution and ensuring its natural cycle continues to support life, aligning with the Qur'anic prohibition of mischief (*fasād*) on earth.

Regarding the term (جَنَّتٍ), a review from the *Mu'jam al-Ma'ani* identifies it as the plural form of (جَنَّةٌ), denoting a garden characterized by an abundance of trees. Furthermore, *Tafsir Abu Su'ud* elucidates the specific meaning of (جَنَّتٍ) as a dense accumulation of trees that are fruit-bearing [29]. According to the Great Dictionary of the Indonesian Language (KBBI), a forest is defined as a vast expanse of land covered with trees that is not subject to private ownership, or alternatively [30], as vegetation typically found in mountainous regions.

Synthesizing the lexicographical insights from *Mu'jam al-Ma'ani*, the exegesis of *Abu Su'ud*, and the definition provided by the KBBI, it can be deduced that the term *Jannāt* in *Surah Qaf: 9* may be categorized as a 'forest.' This classification is predicated on the definition of a forest as a specific land area covered by trees or woody vegetation, which constitutes the predominant natural resource within that region [31]. As stipulated in the Republic of Indonesia Law No. 41 of 1999 [32], a forest constitutes a cohesive ecosystem unit taking the form of an expanse containing biological resources, predominantly trees, existing within their natural surroundings and formed in an inseparable association.

This legal definition aligns with the Qur'anic concept of *Jannāt*. The classical interpretation of *mā'an mubārakan* as water that 'revives dead land' finds a direct scientific correlation here. Maharani (2025) demonstrates that urban soil without vegetation is hydrologically 'dead' because it cannot absorb

rainwater, leading to floods. Therefore, Urban Forests act as a bio-pore system that restores the earth's ability to manage water [12]. Validating this mechanism globally, Livesley et al. (2016), in a seminal study published in the *Journal of Environmental Management*, confirm that urban tree roots significantly improve soil infiltration rates compared to non-vegetated surfaces. They argue that forests act as 'eco-engineers' that transform compacted urban soil into permeable sponges, thereby scientifically embodying the Qur'anic description of 'reviving' the earth to accept the blessing of rain [33]. Furthermore, Nuraeni et al. (2024) confirm that trees in urban settings significantly reduce microclimate temperatures, fulfilling the 'blessing' (barakah) aspect mentioned in Surah Qaf [10]. Validating this cooling function, Hwang et al. (2023) conducted an empirical study demonstrating that urban forests can significantly lower ambient temperatures compared to concrete infrastructure [34]. They confirm that the shading and evapotranspiration effects of dense tree canopies are critical for mitigating the Urban Heat Island effect, physically manifesting the 'comfort' implied in the concept of *Jannāt*.

Surah Qaf (50): 9–11 delineates a systematic and sustainable ecological cycle, establishing that the natural world is created for preservation, not destruction. The phrase *rizqan lil-'ibād* ('provision for servants') implies a divine mandate for stewardship; thus, gratitude to Allah must be manifested through active conservation rather than excessive exploitation. Linguistically and legally – referencing Law No. 41 of 1999 – the Qur'anic term *Jannāt* aligns with the concept of urban forests (dense, fruit-bearing vegetation). While rain is textually defined as *mā'an mubārakan* ('blessed water'), its beneficial nature is contingent upon human management. The hydrometeorological disasters of December 2025, characterized by floods and landslides, exemplify how anthropogenic negligence transforms this blessing into a catastrophe. To restore the blessing of rainwater and prevent urban flooding, conscious management strategies are required. These include expanding urban forests as conservation zones, utilizing permeable paving to enhance infiltration, constructing retention ponds in industrial areas, and strictly managing waste. Integrated implementation of these measures is essential to maintain ecosystem equilibrium and ensure sustainable urban living. This necessity for active involvement is highlighted by Alshehri et al. (2025), who found that community engagement in urban green spaces fosters 'social cohesion' and community resilience [35]. They posit that when citizens actively participate in utilizing and maintaining these spaces, it creates a sense of collective ownership that ensures the long-term sustainability of the urban ecosystem.

Urban Forest Definition and Legal Framework An urban forest is a managed green space located within or adjacent to urban areas, cultivated with

diverse vegetation including trees, shrubs, and other herbaceous plants. The existence of urban forests is pivotal in maintaining the ecological equilibrium of urban regions. According to Government Regulation (PP) No. 63 of 2002 concerning Urban Forests, an urban forest is legally defined as an expanse of land containing compact and dense trees within urban territories [11], situated on either state land or proprietary land designated as an urban forest by authorized officials.

Urban Flooding: Causes and Challenges Urban areas frequently experience flooding disasters during the monsoon season, as exemplified by the recurring inundations in Jakarta and other major metropolitan cities. The primary drivers of this flooding are obstructed river waterways and a critical scarcity of rainwater infiltration areas. Specifically, urban flooding is attributed to several systemic issues: drainage systems incapable of accommodating water discharge capacities, the accumulation of waste in water channels, uncontrolled land conversion [36], insufficient Green Open Spaces (*Ruang Terbuka Hijau*), and extreme weather events resulting from climate change.

Ecological Roles and Benefits Green Open Spaces in urban areas represent a vital solution to flood mitigation. Urban forests play a critical role for city dwellers amidst high population density and demographic growth. Given the proliferation of infrastructure development and vehicular emissions contributing to air pollution, urban forests offer not only aesthetic value but also significant ecological benefits [37]. These areas serve as repositories for faunal and floral biodiversity, thereby functioning as zones for nature preservation and conservation. Functionally, urban forests provide numerous amenities, including noise reduction, the interception and absorption of solid airborne particulates, and the sequestration of lead particles from the atmosphere.

Forests constitute a primary component of the Earth's ecosystem; therefore, integrating forests into urban settings is essential for maintaining environmental balance. Ontologically, an urban forest is characterized as a vegetative expanse that mimics a natural forest structure within a city. Ecologically, it functions as the "lungs of the earth." Endreny et al. (2018), in a major study published in *Nature Communications*, validate this function empirically [38]. Their research confirms that strategically managed urban forests significantly filter air pollution (particulate matter), reduce stormwater runoff, and sequester carbon dioxide, thereby acting as a critical life-support system for urban populations rather than mere aesthetic decoration.

Scientific literature validates the critical role of trees in sustaining urban life. Turner-Skoff and Cavender (2019), in their comprehensive review regarding the benefits of trees for sustainable communities, detail how trees function as

'living technology' that cleanses the air of particulate matter, thereby reducing respiratory mortality. Furthermore, trees regulate the hydrological cycle; their root systems act as filtration mechanisms that store water, mitigate floods, and prevent landslides. Regarding climate regulation, mature trees are proven to sequester significant amounts of carbon dioxide [39]. Beyond physical benefits, the study highlights social impacts: green spaces are linked to reduced crime rates and improved mental well-being due to their stress-reducing psychophysiological effects. Conversely, the conversion of these vegetated areas for industrial use disrupts these ecosystem services, increasing vulnerability to environmental disasters.

Empirical data demonstrates the manifold benefits of urban forests, as exemplified by the Gelora Bung Karno (GBK) Urban Forest. According to a study titled "The Role of Gelora Bung Karno Urban Forest as an Oxygen Producer," the GBK Urban Forest contributes significantly to the residents of Jakarta, particularly through its diverse tree population which provides oxygen and facilitates rainwater absorption. The vegetation species identified within the GBK Urban Forest include *Samanea saman* (trembesi), *Terminalia catappa* (katapang), *Cocos nucifera* (coconut), *Alstonia scholaris* (pulai), *Artocarpus heterophyllus* (jackfruit), and *Diospyros celebica* (ebony); collectively, these tree species generate an oxygen output of 13,082,272.8 kg/year. Consequently, vegetation within the urban forest serves functions extending beyond microclimate regulation, aesthetics, and biodiversity conservation; it also functions as a storage medium [40]. This oxygen production translates into significant economic value. According to Elmqvist et al. (2021), the ecosystem services provided by urban forests—including air purification and carbon storage—save cities millions of dollars annually in healthcare costs, effectively embodying the verse *rizqan lil-'ibād* (provision for servants) in a tangible economic form [41].

In a research article titled "Analisis pemanfaatan hutan kota di kota Mobagu," it is reported that the Bonawang (Kotamobagu) Urban Forest hosts 80 floral species comprising a total of 11,814 individual plants, alongside 24 faunal species, with Nantu and Mahoni serving as the dominant flora. Regarding carbon sequestration, 11 specific species within the Bonawang Urban Forest, North Sulawesi, are capable of absorbing a total of 876,162 kg of carbon dioxide per year [42]. Furthermore, with a total area of 42,340 m² (4.23 ha), the urban forest possesses a rainwater infiltration capacity of 86,452 m³.

In a study by Anis Masruroh and Iroh Rahmawati, titled "Valuasi Ekonomi Hutan Kota Serang," the findings indicate that the water absorption capacity of the Serang Urban Forest—calculated based on an area of 1.4 hectares comprising 576 trees—amounts to a potential volume of 4,032 m³ [43]. Regarding carbon sequestration, the study reports that the 576 trees within Serang City, with

an average height of 10 meters, achieve a total carbon sequestration rate of 4,972,400.00 tons/year.

Theological Implications: *Rizqan lil-'ibād* and the Prohibition of *Fasād*

The concept of *rizqan lil-'ibād* (sustenance for servants) in Surah Qaf implies that nature is a divine mandate, not merely a commodity. Abidin and Muhammad (2020) argue that the ecological crisis constitutes not merely a technical predicament but pertains to moral and spiritual dimensions, necessitating an 'Eco-theology' approach [44]. In this view, environmental degradation is a tarnishing of authentic religiosity and a negation of human purpose. Furthermore, Jannah et al. (2025) highlight the concept of *mīzān* (balance) as described in QS. Ar-Rahman: 7-9, which demands that humans uphold the balance of nature. Actions such as deforestation and pollution are categorized as *fasād* (corruption), which includes physical ecological damage, not just moral corruption [45]. Therefore, the role of *Khalīfah* entails active guardianship (*ri'āyah*) and ensuring that natural resources are managed sustainably.

Humans constitute the primary agents responsible for maintaining the equilibrium of existing ecosystems. This role as stewards (*khalīfah*) necessitates a profound sense of responsibility regarding the blessings bestowed by Allah through forest resources. Bsoul et al. (2022), in their conceptual analysis of sustainability in Islam, assert that the role of *khalīfah* (guardian or steward of the earth) implies that while humans are permitted to utilize natural resources, they are strictly prohibited from engaging in excess or destruction, as the environment belongs to all generations, not merely the present one [46]. Islam also clearly provides guidelines for conservation, such as the encouragement to revitalize barren land. Bsoul and his team emphasize the Prophet's teaching that planting trees constitutes *ṣadaqah jāriyah* (continuous charity), thereby creating a theological impetus for managing and revitalizing the land.

Furthermore, Islam explicitly provides guidelines for environmental conservation, such as the command to revive and manage barren lands. This is grounded in a hadith narrated by Imam al-Bukhari regarding land ownership acquired through the effort of reviving it (*ihyā' al-mawāt*). Additionally, Islam prohibits the indiscriminate felling of trees. In a hadith narrated by Abu Dawud, the Prophet warned that trees play a crucial role as shelter for wildlife. Islam also forbids the excessive exploitation of forest products – whether leaves, wood, or fruit – in alignment with Q.S. Al-An'am (6): 141, which prohibits extravagance. Finally [47], Islam advocates for the restriction of cruel poaching, as animals play a vital role in maintaining the balance of nature, such as assisting in plant pollination and seed dispersal.

In another instance, Allah articulates a prohibition against environmental degradation in Surah Al-A'raf (7): 56:

وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا ﴿٥٦﴾

'And do not corrupt the earth after its reformation. Interpreting this verse, Tafsir al-Qurtubi explains that Allah forbids any act of spoilage on earth, regardless of its magnitude, once He has restored and balanced its ecosystem. Al-Daḥḥāk further clarifies this by identifying specific acts of environmental violence, namely the contamination of river water and the wrongful cutting of trees [48]. This view is corroborated by al-Shawkani in Fath al-Qadīr [8], who maintains that the divine ban on earthly corruption specifically targets acts such as deforestation and the drying up of water bodies.

Corruption has appeared on land and sea because of what the hands of men have earned, that He may make them taste a part of that which they have done, in order that they may return." (Q.S. Ar-Rum: 41). Wahbah al-Zuhaili interprets this verse by stating that visible disasters – such as hardship, drought, fires, floods, and unrest – are the results of human actions. Allah inflicts these calamities so that humans experience the consequences of their deeds in this life, facilitating their repentance before the afterlife [22]. Occurrences like forest fires and floods are driven by human avarice; in their greed, they destroy forests that naturally serve as flood prevention buffers. In addition to worshipping Allah, humans function as Khalīfah on earth. As vicegerents, their duty encompasses the utilization, management, and preservation of the universe. Allah created the cosmos for the interest and welfare of all beings, particularly mankind.

Urban forests serve as vital ecological conservation zones for biodiversity ; however, their sustainability relies heavily on active community stewardship rather than solely on governmental oversight. In their study published in the journal *Urban Science*, Adriano Bressane et al. elucidate that governmental capacity to manage green spaces is frequently constrained. Consequently, community participation is indispensable, serving as a critical factor in mitigating these limitations [49]. They emphasize the concept of stewardship, wherein citizens transcend their roles as mere users of urban forest facilities to function as custodians obligated to maintain cleanliness and prevent degradation. Such active engagement fosters a sense of ownership regarding the urban forest. Empirically, this sense of ownership has been demonstrated to mitigate vandalism and preserve the forest's ecological functions over the long term.

Residents are obligated to participate in maintenance and prevent environmental degradation, such as littering or vandalism. This civic duty aligns

with Islamic principles of promoting beneficence and preventing harm, as conserving these oxygen-producing ecosystems generates profound collective public health benefits

The Messenger of Allah ﷺ, in his Hadith, commanded his Ummah (followers) to plant trees, even if the Day of Judgment were to occur the very next day.

إِن قَامَتِ السَّاعَةُ وَفِي يَدِ أَحَدِكُمْ فَسِيلَةٌ فَإِنِ اسْتِطَاعَ أَنْ لَا تَقُومَ حَتَّى يَغْرِسَهَا فَلْيَغْرِسْهَا

"If the Hour (the Day of Judgment) occurs while one of you holds a sapling in his hand, then if he is able to plant it before the Hour stands, let him plant it." (Narrated by al-Bukhari and Ahmad). This command demonstrates that, in truth, Islam teaches its followers to maintain the preservation of nature and to care for the earth.

Implications, Limitations, and Future Research

This research offers both theoretical and practical implications. Theoretically, this study contextualizes Islamic eco-theology (*fiqh al-bi'ah*) within modern urban spatial planning, proving that classical exegesis specifically of Surah Qaf verses 9-11 can support contemporary ecological frameworks. Practically, the concept of "Ecological Piety" provides a strong spiritual-ethical foundation for policymakers and urban planners to encourage active community participation in caring for and protecting Green Open Spaces (RTH).

However, this study has several shortcomings, particularly regarding its methodological limitations. As a qualitative library research, this study is confined to conceptual analysis and lacks empirical data on how these theological concepts actually influence community behavior in the real world. Therefore, future research should involve empirical and quantitative studies to measure the behavioral changes in urban Muslim communities following the introduction of the "Ecological Piety" concept, as well as its direct correlation with the physical improvement of local urban forests.

Conclusion

In answering the research questions formulated in this study, the findings demonstrate a profound alignment between the classical exegetical interpretations of Surah Qaf: 9-11 and contemporary urban ecological principles. First, linguistically and theologically, the classical commentaries interpret *mā'an mubārakan* (blessed water), *jannāt* (gardens), and *rizqan lil-'ibād* (sustenance) not merely as abstract descriptions of nature, but as interconnected components of a life-sustaining ecosystem. Second, when contextualized with modern science,

these concepts strongly align with urban forest conservation. *Mā'an mubārakan* corresponds to sustainable urban hydrology and water security, while *jannāt* serves as the theological equivalent of modern Green Open Spaces (RTH), functioning physically as vital ecosystem buffers and microclimate regulators that mitigate urban heat and flooding.

Third, the synthesis of these verses establishes a robust theological-ethical foundation for modern urban ecological policies through the concept of "Ecological Piety." The phrase *rizqan lil-'ibād* frames conservation not merely as a biological necessity, but as a divine mandate (*amānah*). It necessitates active human stewardship (*khalifah*) to protect these natural provisions, demanding that urban communities and policymakers actively participate in maintaining ecological balance.

Ultimately, the main contribution of this study lies in shifting the paradigm of Islamic eco-theology from abstract normative ethics to a practical, policy-oriented framework. By operationalizing classical text into the context of modern spatial planning, this research provides a solid spiritual-ethical justification for urban planners and governments to prioritize forest conservation, ensuring that urban development remains ecologically sustainable and theologically grounded.

Author Contributions

Muhammad Wahyudin: Conceptualization, Methodology, Writing - review & editing, Supervision, Project administration. . **Abdusshomad Rifa'i:** Conceptualization, Methodology, Writing - review & editing, Investigation.

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Conflict of Interest

The authors declare no conflicts of interest.

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