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SEMANTIC ANALYSIS OF COSMIC QUR'ANIC VERSES (SAMĀ', ARḌ, MAṬAR): AN ECOTHEOLOGICAL INTERPRETATION OF CLIMATE CHANGE PHENOMENA

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ABSTRACT

Climate change is one of the most pressing challenges of the 21st century, requiring a multidisciplinary approach that includes religious perspectives. In Islamic tradition, the Qur'an provides a theological and ethical framework for understanding the human nature relationship through its cosmic verses, which utilize terms such as *samā'* (heavens/sky), *arḍ* (earth), and *maṭar* (rain). This study aims to explore the semantic meanings of these three terms to develop an Islamic environmental ethic relevant to contemporary climate change issues. The research employs semantic analysis with a *mauḍū'ī* (thematic) approach, integrating classical and contemporary exegesis alongside scientific findings related to climate dynamics. The corpus analyzed includes key Qur'anic verses such as *Qur'an 2:29* (on creation), *Qur'an 21:30* (on life from water), and *Qur'an 30:48* (on the hydrological cycle), among others. The findings reveal that *samā'* extends beyond the physical sky to encompass the atmospheric systems that sustain life, *arḍ* signifies ecological stewardship, and *maṭar* conveys dual meanings both as a symbol of mercy and divine retribution. These insights highlight the relevance of the concepts of *khilāfah* (stewardship), *mīzān* (balance), and human moral responsibility toward the environment. The study contributes to the discourse on Islamic environmental ethics by linking Qur'anic semantic analysis with climate change, offering a robust theological foundation for sustainable ecological practices within an Islamic framework.

Keywords: Qur'anic semantics; cosmic verses; *samā'*; *arḍ*; *maṭar*; ecotheological exegesis; climate change; Islamic environmental ethics.

1. INTRODUCTION

Climate change has emerged as one of the greatest challenges facing humanity in the 21st century. Reports from the Intergovernmental Panel on Climate Change (IPCC, 2022) confirm that anthropogenic activities have led to a global temperature increase of 1.1°C compared to the pre-industrial era, with increasingly evident impacts such as natural disasters, droughts, floods, and ecosystem degradation (IPCC, 2021). In the face of this global crisis, various religious traditions, including Islam, are called upon to provide relevant theological and ethical responses to the pressing environmental challenges (Jenkins et al., 2016).

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The Qur'an, as the sacred scripture of Islam, contains hundreds of verses addressing natural phenomena, the human environment relationship, and the moral responsibilities associated with the stewardship of the Earth. Cosmic terminologies such as samā' (heaven/atmosphere), arḍ (Earth), and maṭar (rain) not only describe physical realities but also convey profound theological and ethical dimensions (Dutton, 2003). These verses establish an Islamic cosmological framework that integrates spiritual, moral, and ecological dimensions, making it highly relevant for understanding the current environmental crisis.

In the classical exegetical tradition, cosmic verses are generally understood within theological and cosmological frameworks that affirm the greatness of God as the Creator (al-Khāliq) and Sustainer of the universe (Al-Ṭabarī, 2001). However, there is a growing need to reinterpret these verses through an ecotheological approach that connects their textual meanings with the realities of climate change and global environmental degradation (Grim & Tucker, 2014). Ecotheological exegesis is a hermeneutical approach that aims to uncover ecological messages within religious texts while constructing an ethical framework for environmental conservation and responses to the climate crisis (Northcott, 1996). Several contemporary Muslim scholars have emphasized the concepts of khilāfah, amānah, mīzān, and the prohibition of fasād fī al-arḍ as foundational pillars of Islamic environmental ethics (Khalid, 2002).

Previous studies show that research on the semantics of cosmic verses has been conducted, albeit with varying focuses. Oruç (2021) examined the attribution of life (ḥayāh) to the heavens and the Earth, debating literal (ḥaqīqī) and metaphorical (majāzī) interpretations within the exegetical tradition. Yusuf et al. (2023) distinguished between the use of samā' (singular) and samāwāt (plural) in the contexts of creation and broader depictions of the cosmos. Tafse (2022) analyzed the semantic differences between maṭar and ghayth, finding that maṭar is often associated with punishment, whereas ghayth is linked to mercy (Tafse, 2022a). Aydın (2024) expanded this study by examining other meteorological terms in relation to natural phenomena and disasters (Aydın, 2024).

Ecotheological exegesis studies have also continued to develop. Parray and Magray (2022) emphasize the need for ecological readings of Qur'anic verses (Parray & Magray, 2022), while Khalid (2019) highlights the concepts of khilāfah and amānah as foundational principles of Islamic environmental ethics (Khalid, 2002). Ozdemir (2003) also discusses the concepts of tawḥīd, mīzān, and khalīfah in an environmental context (Ozdemir, 2003a). A broader perspective is presented by Foltz et al. (2003), who compile various viewpoints on the relationship between Islam and ecology (Ozdemir, 2003b).

In the Indonesian context, Mustolikh et al. (2022) show that natural disasters are often associated with destructive human behavior (Mustolikh et al., 2022), while Mangunjaya and McKay (2012) highlight conservation practices rooted in Muslim community-based initiatives (Mangunjaya & McKay, 2012). The mauḍū'ī approach, as a thematic exegetical method, has also been applied by several researchers to examine environmental issues in the Qur'an (Al-Damkhi, 2008). Abdul-Matin (2010) integrates Islamic values with the modern environmental movement in Green Deen (Abdul-Matin, 2010).

On the other hand, several scholars have sought to bridge religious studies with modern scientific perspectives. Guessoum (2011) discusses the dialogue between Qur'anic cosmology and contemporary science (Guessoum, 2011) , while Iqbal (2007) examines its coherence with findings in astronomy and the natural sciences (Iqbal, 2007). Such a multidisciplinary approach is increasingly essential in responding to the complexity of environmental issues (Bakar, 2014).

Nevertheless, several research gaps remain to be addressed, including: (1) the absence of a comprehensive study that integrates semantic analysis of the terms samā', arḍ, and maṭar with

contemporary climate change phenomena; (2) the limited use of corpus-linguistic approaches in the study of cosmic terminology; (3) the lack of integration of scientific climate data in the analysis of cosmic verses; (4) the scarcity of historical studies tracing the development of interpretations of cosmic verses from classical to modern periods; and (5) the limited application of interdisciplinary approaches that combine linguistics, theology, environmental science, and philosophy.

Given this context, the present study seeks to address these gaps by systematically analyzing the semantics of cosmic terminology, examining the development of classical and contemporary exegesis, and integrating scientific findings related to climate change. Additionally, this research aims to formulate ecotheological contributions to the development of an Islamic environmental ethic that is relevant to the global ecological crisis.

2. METHODS

This study employs an integrated methodology, combining semantic analysis with the *mauḍū'ī* (thematic) exegesis approach. The analysis focuses on the lexical meanings, derivational patterns, and semantic fields of key terms *samā'*, *arḍ*, and *maṭar* along with related synonyms. It considers both the lexical meaning (*ma'nā aṣlī*) and contextual meaning (*ma'nā siyāqī*) of these terms, based on their usage across multiple Qur'anic verses. This analysis encompasses the following total number of verses: *samā'* (25 verses), *arḍ* (26 verses), *maṭar* (9 verses), and related terms (*ghayth*, *ṣayyib*, *wabl*).

Data Collection

Data collection was conducted in three stages:

1. Identification of all relevant Qur'anic verses using *Mu'jam al-Mufahras li Alfāẓ al-Qur'ān* and digital Qur'anic tools.
2. Compilation of classical and contemporary tafsīr interpretations into thematic categories.
3. Secondary literature review through databases such as Google Scholar, Scopus, and other digital libraries to gather references related to linguistics and climate change.

Data analysis followed these stages:

1. Lexical Semantic Analysis: Focused on defining the fundamental meanings of cosmic terms.
2. Contextual Analysis: Considered each term's placement in the verses, broader surah context, co-occurrence patterns, rhetorical aims, and, where applicable, *asbāb al-nuzūl* (reasons for revelation).
3. Comparative Exegesis: Examined classical and modern tafsīr perspectives to identify commonalities, differences, and interpretive developments.

To ensure the reliability of interpretations, *cross-checking* was conducted by consulting multiple tafsīr sources, validating key interpretations through consensus among scholars, and reviewing relevant linguistic studies.

Ecotheological Interpretation

All semantic and exegetical findings were interpreted through an ecotheological lens that links Qur'anic cosmic messages to contemporary environmental issues, specifically climate change. The ecotheological framework draws on the principles of *tawḥīd* (unity of God), *khilāfah*

(stewardship), *amānah* (trust), *mīzān* (balance), and *fasād* (corruption), offering an interpretation that blends theological understanding with ecological responsibility.

Theoretical Frameworks

The study is grounded in four key frameworks:

1. Contextual Semantic Theory**:** The meaning of a term is determined by its usage within the text.
2. Mauḍū'ī Exegesis: Thematic exegesis of verses related to cosmic phenomena.
3. Ecotheological Approach: Understanding religious texts as ecological messages to address environmental issues.
4. Islamic Environmental Ethics**:** Built upon the values of *tawḥīd*, *khilāfah*, *amānah*, *mīzān*, and *'adl* (justice), which form the ethical foundation for environmental stewardship in Islam.

These combined methodologies are designed to produce a comprehensive, systematic, and academically rigorous analysis.

SEMANTIC ANALYSIS OF COSMIC TERMINOLOGY

Samā' (السماء) and Samāwāt (السموات)

Lexical Analysis

The term *samā'* is derived from the root س-م-و (s-m-w), which relates to concepts of height, elevation, or being situated above (Ibn Fāris, 1979). In *Lisān al-'Arab*, Ibn Manẓūr defines *samā'* as "everything that is above you and covers you (Ibn Manẓūr, 1993). Al-Rāghib al-Aṣfahānī, in *Mufradāt Alfāẓ al-Qur'ān*, notes that *samā'* can refer to the physical sky, the atmosphere, or anything elevated. In the Qur'an, *samā'* appears in two forms: singular (*samā'*) and plural (*samāwāt*). Research by Yusuf et al. (2023) indicates that *samāwāt* is more frequently used in creation narratives and cosmological descriptions, while *samā'* generally refers to the sky or atmosphere.

Contextual Analysis

The use of *samā'* and *samāwāt* in the Qur'an spans several thematic contexts:

1. **Creation Context**: *Al-Baqarah* [2:29] describes the creation of the seven layers of the heavens, and *Fuṣṣilat* [41:11–12] explains their gradual formation.
2. **Ecological Function**: In *Al-Baqarah* [2:22], the sky is described as a canopy, while *Al-Naba'* [78:12–14] depicts the sky as a protective structure involved in the water cycle.
3. **Signs of Divine Power**: *Al-Dhāriyāt* [51:47] states that the sky was created by God's power, and *Qāf* [50:6] invites people to observe the sky as a sign of divine greatness.

Tafsir Interpretation

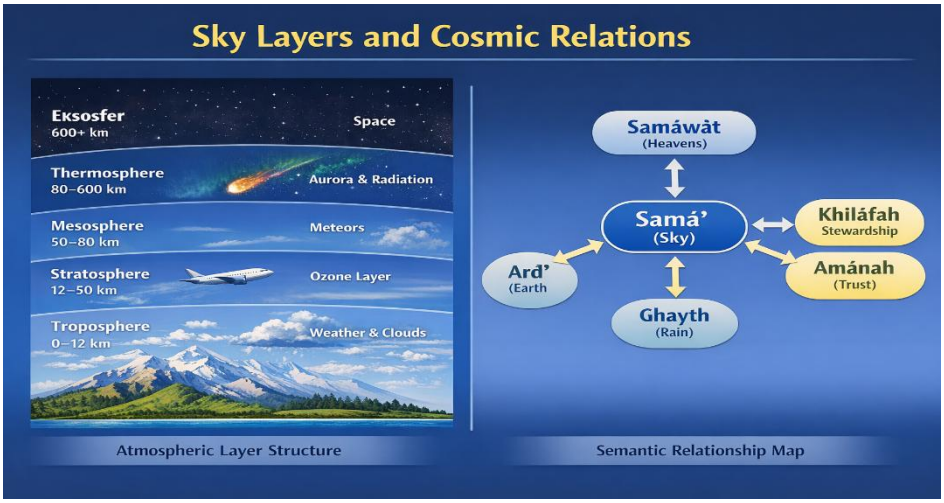
Classical exegetes like al-Ṭabarī (d. 310 AH) understood *samā'* as a solid, physical structure above the earth, created without visible pillars. Al-Qurṭubī (d. 671 AH) further explained that the heavens function as a "preserved canopy" (*saqf maḥfūẓ*) that protects the earth from cosmic harm. Contemporary interpretations expand on this by incorporating modern scientific insights. Sayyid Quṭb, in *Fī Ẓilāl al-Qur'ān*, emphasizes that the heavens form a harmonious system sustaining life, while Wahbah al-Zuḥaylī, in *Al-Tafsīr al-Munīr*, integrates the understanding that *samā'* refers to the layers of the atmosphere that protect life by filtering radiation and external disturbances (Al-Zuhaylī, 1998).

Ecotheological Relevance

An ecotheological approach interprets these verses as suggesting that the atmosphere is a divinely ordained system, integral to maintaining life on earth. Disrupting the equilibrium of this system, such as through pollution or climate change, violates the cosmic order set by God. As *khalīfah* (stewards), human beings are entrusted with the responsibility to preserve this balance(Foltz et al., 2003).

Sky Layers and Cosmic Relations

The infographic below provides a detailed visualization of the Earth's atmospheric layers on the left, illustrating the various layers of the sky, from the troposphere to the exosphere. Each layer is labeled with its respective height, function, and associated symbols. On the right, a semantic relationship map is presented, linking key cosmic terms such as *Samā'* (Sky), *Samāwāt* (Heavens), *Arḍ* (Earth), *Ghayth* (Rain), and the ethical principles of *Khilāfah* (Stewardship) and *Amānah* (Trust). The diagram showcases the interconnectedness of these terms, which are pivotal in understanding the ecological and moral framework within Islamic teachings and their relevance to contemporary environmental issues.



Arḍ (الأرض)

Lexical Analysis

The term *arḍ* originates from the root ا-ر-ض (ʾ-r-ḍ), conveying meanings related to the ground, foundation, or lowly place (Ibn Fāris, 1979). In *Lisān al-'Arab*, *arḍ* is defined as "the place upon which creatures stand" and "the opposite of the heavens" (Ibn Manẓūr, 1993). Al-Rāghib al-Aṣfahānī explains that *arḍ* in the Qur'an can refer to the Earth, soil, surface, or a specific region (al-Aṣfahānī, 2009).

Contextual Analysis

The usage of *arḍ* in the Qur'an spans several thematic contexts:

1. **Creation and Cosmic Function**: *Al-Baqarah* [2:29] confirms that all on the Earth was created for humankind, and *21:30* highlights life originating from water.
2. **Ecological Function**: In *Al-Baqarah* [2:22], the Earth is described as an expanse; *67:15* explains the Earth's facilitation for human activity.

3. **Balance and Order**: *Al-Raḥmān* [55:7–9] emphasizes balance in creation, while *Al-Ḥijr* [15:19] affirms that everything on Earth has been created in measure.
4. **Prohibition of Corruption**: *Qur'an 7:56* forbids spreading corruption, and *30:41* states that corruption on land and sea results from human actions.

Exegetical Interpretation

Classical exegetes like al-Ṭabarī (d. 310 AH) viewed *arḍ* as the foundation for human life. Al-Rāzī, in *Mafātīḥ al-Ghayb*, interpreted the Earth's creation as subjugated for human benefit, with an ethical responsibility to manage it (Al-Rāzī, 1999). Contemporary scholars like Seyyed Hossein Nasr highlight that the Earth, within Islamic cosmology, is not just a resource but an *amānah* (trust) entrusted to humanity (Nasr, 1968).

Ecotheological Relevance

The Qur'anic concept of *arḍ* offers significant insights in the context of climate change:

1. **The Earth as a Trust**: *Qur'an 2:29* emphasizes that the Earth was created *"for you"* (lakum), indicating humanity's responsibility to manage resources sustainably. This principle affirms *khilāfah* and *amānah*, where humans act as trustees, not absolute owners.
2. **The Principle of Balance (Mīzān)**: Verses like *Qur'an 55:7–9* and *15:19* stress the Earth's intrinsic balance, which must be preserved. Disruption of this balance, due to human activity, directly contributes to climate change. The theological foundation of *mīzān* supports environmental mitigation and adaptation.
3. **The Prohibition of Corruption (Fasād)**: *Qur'an 7:56* explicitly prohibits corruption on Earth, making environmental sustainability a matter of religious duty. *Qur'an 30:41* describes modern ecological degradation as the result of human actions, highlighting its relevance to contemporary environmental issues.
4. **Systemic Interconnectedness**: Verses such as *Qur'an 21:30* express the interdependent relationship between the heavens, Earth, and all life forms, aligning with modern ecological understandings of ecosystem interconnectedness (Chapin III et al., 2011).

Summary Table: Semantic Fields of *Arḍ*

Context	Term in Qur'an	Explanation
Creation & Cosmic	*Arḍ*	The Earth as a creation for humankind, formed from water (*Qur'an 2:29*).
Ecological Function	*Arḍ*	Earth as an expanse facilitating human activity (*Qur'an 67:15*).
Balance & Order	*Arḍ*	The Earth as part of cosmic balance (*Qur'an 55:7-9*, *15:19*).
Prohibition of Corruption	*Arḍ*	Human-caused corruption on Earth (*Qur'an 7:56*, *30:41*).

Maṭar (المطر), Ghayth (الغيث), and Other Rain-Related Terminologies

Lexical Analysis

1. **Maṭar (مطر)**
   Derived from the root م-ط-ر (m-ṭ-r), *maṭar* refers to rain or anything descending from the sky. In the Qur'an, *maṭar* often carries negative connotations, such as divine punishment, but in some instances, it may have a neutral meaning (Tafse, 2022b).
2. **Ghayth (غيث)**
   From the root غ-ي-ث (gh-y-th), *ghayth* signifies relief or deliverance. It is consistently used in the Qur'an to represent rain as mercy, blessing, and a source of sustenance (Tafse, 2022b).
3. **Wabl (وبل)**
   Refers to heavy or abundant rainfall, often associated with soil fertility and agricultural productivity.
4. **Ṣayyib (صَيِّب)**
   Describes torrential rain, with both positive or negative implications depending on context (Al-Rāghib al-Aṣfahānī, 2009).
5. **Mā' (ماء)**
   General term for water, including rainwater, which is the primary source of life.

Contextual Analysis

1. **Maṭar in Punitive Context**:
   a) *Qur'an 7:84*: "And We sent down upon them a rain (maṭar)..." - a reference to divine punishment.
   b) *Qur'an 26:173*: "And We rained upon them a rain (maṭar)..." - another example of punishment through rain.
2. **Maṭar in Neutral/Merciful Context**:
   a) *Qur'an 25:48–49*: Describes how God sends the wind and pure water to revive the land.
3. **Ghayth as Mercy**:
   a) *Qur'an 42:28*: "He is the One who sends down the rain (ghayth) after they had lost hope..."
   b) *Qur'an 57:20*: Ghayth as rain that produces vegetation, surprising farmers.
4. **Hydrological Cycle and Ecological Function**:
   a) *Qur'an 30:48*: Depicts cloud formation and rain descent.
   b) *Qur'an 23:18*: "Water is sent down 'in due measure'" showing the measured nature of water.

Exegetical Interpretation

Classical tafsīr interpretations highlight the difference between *maṭar* (often linked with punishment) and *ghayth* (associated with mercy). Ibn Kathīr (1999) interpreted verses like *Qur'an 30:48* as evidence of God's power in orchestrating natural mechanisms, such as cloud formation and rain, which are seen as divine manifestations. Contemporary exegetes like Sayyid Quṭb emphasize that rain functions based on the moral state of the community receiving it (Quṭb, 2003).

Ecotheological Relevance

In the context of climate change, the Qur'anic terminology related to rain offers significant reflections:

1. **Duality of Rain as Mercy and Punishment**:

Climate change has transformed rain, once seen as mercy, into extreme events like floods, landslides, and storms. The absence of rain causes drought. This duality is interpreted as the moral consequences of human behavior toward the environment.

2. **Hydrological Cycle as an Integrated System**:

Qur'an 30:48 presents the natural water cycle. Climate change disrupts this cycle, causing intensified wet and dry conditions. This disruption can be seen as a violation of God's ecological order (Llewellyn, 2003).

3. **Water as a Sacred Trust**:

Qur'an 21:30 affirms that all life originates from water. With climate change exacerbating the water crisis, water management is not just technical but a spiritual trust (*amānah*), emphasizing ethical responsibility (Faruqi, 2006).

4. **Prophetic Warnings Regarding Shifts in Rainfall Patterns**:

Qur'an 23:18 warns that God can withhold water. Many regions today face reduced water availability due to shifting rainfall patterns, making this verse particularly relevant (Dai, 2011).

Summary Table: Semantic Fields of *Maṭar*, *Ghayth*, *Wabl*, *Ṣayyib*, *Mā'*

Term	Meaning	Context in the Qur'an	Connotation
Maṭar	Rain	Divine punishment (*Qur'an 7:84*, *26:173*), sometimes neutral.	Negative or neutral
Ghayth	Rain as Mercy	Mercy, blessing, sustenance (*Qur'an 42:28*, *57:20*)	Positive
Wabl	Heavy rainfall	Associated with soil fertility and agricultural productivity.	Positive
Ṣayyib	Torrential rain	May be either positive or negative based on the context.	Mixed (positive/negative)
Mā'	Water (general)	The primary source of life (*Qur'an 21:30*)	Neutral (life-giving)

Eco-Theological Exegesis

The core principles of Islamic environmental ethics, rooted in concepts such as *tawḥīd* (the oneness of God), *khilāfah* (human stewardship), *amānah* (trust), *mīzān* (balance), and *fasād* (corruption), provide a theological framework for addressing contemporary ecological challenges, including climate change.

1. **Tawḥīd and Cosmic Unity**:

Tawḥīd emphasizes the interconnectedness of all creation, from heavens and Earth to humans, animals, and plants. The Qur'anic verses that describe the creation of the heavens and the Earth (e.g., *Qur'an 51:47–49*, *21:30–33*) reflect the unity of the cosmos under God's will. The ecological implications of *tawḥīd* suggest that damage to any component of the system, such as

atmospheric pollution, disrupts the balance of the entire system, aligning with scientific views of the interconnected climate system (Steffen & Others, 2015).

2. **Khilāfah and Human Responsibility**:

As God's vicegerents (*khalīfah*) on Earth, humans are entrusted with the responsibility of managing the environment sustainably. *Qur'an 30:41* links environmental degradation to human actions, reflecting the moral duty of stewardship. Excessive exploitation and ecological neglect are seen as betrayals of the divine trust (*amānah*), with clear implications for modern climate change (Haq, 2001).

3. **Amānah and Divine Trust**:

Amānah denotes the sacred trust entrusted to humanity, which includes the responsibility for maintaining ecological integrity. *Qur'an 33:72* indicates that humanity accepted this trust, which includes managing natural resources for future generations. The concept of *amānah* also emphasizes intergenerational justice, making it particularly relevant to the discourse on climate change and the water crisis (Gardiner, 2011).

4. **Mīzān and Ecological Balance**:

The Qur'an underscores that the universe operates within a system of precise balance (*mīzān*) a balance that humanity must preserve. *Qur'an 55:7–9* and *15:19* highlight God's creation of the balance, and the violation of this balance, through actions like pollution and resource overexploitation, is both an ecological and moral transgression. Maintaining this balance is a theological duty, requiring sustainable practices that prevent disruption to the natural world.

5. **Fasād and Environmental Corruption**:

Fasād refers to actions that cause corruption and destruction, particularly to the environment. *Qur'an 7:56* and *30:41* explicitly state that corruption on Earth is a result of human misdeeds. Modern activities such as greenhouse gas emissions, deforestation, and pollution fall under *fasād*, which is viewed not only as ecological violation but as a spiritual sin for which humanity is accountable before God. Some modern examples include:

a) Greenhouse gas emissions

b) Massive deforestation

c) Land degradation and soil erosion

d) Pollution (air, water, and soil)

6. **Tasbīḥ and Cosmic Participation**:

The Qur'anic concept of *tasbīḥ* (praise of God) reveals that the universe is not a passive entity but an active participant in glorifying its Creator. Nature, as a participant in *tasbīḥ*, has intrinsic value, and its degradation can be seen as silencing this praise. The ethical responsibility of humans is to maintain the harmony of this cosmic praise, ensuring the well-being of all creation (Oruç, 2021).

3. CONCLUSION

This study examines the semantics of cosmic verses in the Qur'an, focusing on terms such as *samā'* (heavens), *arḍ* (earth), and *maṭar* (rain), interpreting them within an ecotheological framework to address climate change. The analysis reveals that these terms have multifaceted meanings: *samā'* refers to both the sky and the atmospheric system sustaining life, *arḍ* is seen as

a divine trust (*amānah*) whose balance must be preserved, and *maṭar* and other rain-related terms carry dual meanings depending on the context either as mercy (*ghayth*) or divine punishment (*maṭar*). The study also shows that exegesis has evolved from literal interpretations to more ecological and ethical readings, integrating scientific knowledge with theological insights.

Key concepts identified include *tawḥīd* (cosmic unity), *khilāfah* (stewardship), *amānah* (trust), *mīzān* (balance), *fasād* (corruption), and *tasbīḥ* (cosmic participation). These principles offer a robust ethical framework for addressing climate change, emphasizing humanity's responsibility to protect the Earth. Notably, *Qur'an 30:41* links human-induced corruption to environmental degradation, highlighting the need for sustainable practices. The integration of scientific findings with Qur'anic teachings demonstrates a synergy between science and religion, offering both moral guidance and practical solutions for climate action.

Key Findings:

1. *Cosmic terminology* in the Qur'an offers rich, multidimensional meanings relevant to ecological and climate issues.
2. Modern interpretations of *tawḥīd*, *khilāfah*, and *mīzān* connect ecological balance to moral responsibility, urging sustainable practices.
3. *Qur'an 30:41* emphasizes human accountability for environmental destruction, aligning with modern climate change concerns.
4. The *ecotheological framework* links scientific knowledge with theological insights, fostering a dialogue between religion and science.

Recommendations:

1. **For Future Research**:
   a) Conduct corpus-based quantitative studies to map the usage patterns of cosmic terminology.
   b) Carry out comparative studies of environmental ethics across different religious traditions.
   c) Examine the effectiveness of ecotheological approaches in promoting ecological behavior in Muslim communities.
2. **For Practice and Policy**:
   a) Develop curricula integrating ecotheological perspectives in Islamic education.
   b) Encourage fatwas and practical guidelines on environmental issues from religious authorities.
   c) Establish Islamic green finance instruments to support climate mitigation projects.
   d) Foster collaboration among global Islamic organizations for coordinated climate action.
   e) Organize ecological awareness campaigns in mosques and Islamic educational institutions.

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