PROMOTING THE GROWTH OF A MADANI SOCIETY THROUGH SUSTAINABLE LIGHT POLLUTION MANAGEMENT

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Abstract. The concept of a Madani society, characterized by a balanced and harmonious community rooted in moral and ethical values, is crucial for sustainable development. This paper explores the role of sustainable light pollution conservation in fostering the development of such a society. Light pollution, an often overlooked environmental issue, has far-reaching effects on human health, wildlife, and the environment. By implementing strategies to reduce light pollution, communities can improve public health, protect ecosystems, and enhance the quality of life. This study examines the benefits of sustainable light pollution practices, such as using energy-efficient lighting, enforcing dark-sky regulations, and raising public awareness. Through a comprehensive approach, this paper highlights how these practices contribute to the broader goals of a Madani society, promoting environmental stewardship, social well-being, and economic resilience. The findings suggest that integrating sustainable light pollution conservation into urban planning and policy-making can play a significant role in building a Madani society, ultimately leading to a more sustainable and harmonious future.
Keywords: *Madani society, light pollution conservation, sustainable development, human health, environmental stewardship*

Introduction

A Madani society is also often referred to as a "civil society"; is based developed values based on justice, equality, and mutual respect (Sualman, 2024). A Madani society emphasis on moral and ethical values drawn from the teachings of Islam. It represents a community living, where people work for the common good, ensuring that rights and obligations of the members are balanced and respected. The word "Madani" is originated from the Arabic word "Madinah," which means "city" or "civilization." It refers to the city of Madinah in Saudi Arabia, where the Prophet Muhammad (PBUH) settled and laid the very foundations for the first Islamic state through Law of Madinah (Iskandah et al., 2024). In the Quran, there are three terms that refer to the concept of a madani society. These terms are khaira ummah, ummatan wasata, and ummah muqtasidah (Fernandez, 2024). The term khaira ummah refers to the best community, as mentioned in Surah Al-Imran, verse 110:

كُنتُمْ خَيْرَ أُمَّةٍ أُخْرِجَتْ لِلنَّاسِ تَأْمُرُونَ بِٱلْمَعْرُوفِ وَتَنْهَوْنَ عَنِ ٱلْمُنكَرِ وَتُؤْمِنُونَ بِٱللَّهِ ۗ وَلَوْ ءَامَنَ أَهْلُ ٱلْكِتَٰبِ لَكَانَ خَيْرًا لَّهُمْ ۚ مِّنْهُمُ ٱلْمُؤْمِنُونَ وَأَكْثَرُهُمُ ٱلْفَٰسِقُونَ ﴿١١٠﴾ [آل عمران:110-110]

110. You are the best nation produced [as an example] for mankind. You enjoin what is right and forbid what is wrong and believe in Allah. If only the People of the Scripture had believed, it would have been better for them. Among them are believers, but most of them are defiantly disobedient. [Al 'Imran:110]. This verse emphasizes the role of Muslims as the best or khaira community, which promote good, prevent evil, and believe in Allah. The term ummatan wasata refers to a balanced community, which located in the middle ground between two extreminites. This is mentioned in Surah Al-Baqarah, verse 143:

وَكَذَٰلِكَ جَعَلۡنَٰكُمۡ أُمَّةٗ وَسَطٗا لِّتَكُونُواْ شُهَدَآءَ عَلَى ٱلنَّاسِ وَيَكُونَ ٱلرَّسُولُ عَلَيۡكُمۡ شَهِيدٗاۗ وَمَا جَعَلۡنَا ٱلۡقِبۡلَةَ ٱلَّتِي كُنتَ عَلَيۡهَآ إِلَّا لِنَعۡلَمَ مَن يَتَّبِعُ ٱلرَّسُولَ مِمَّن يَنقَلِبُ عَلَىٰ عَقِبَيۡهِۚ وَإِن كَانَتۡ لَكَبِيرَةً إِلَّا عَلَى ٱلَّذِينَ هَدَى ٱللَّهُۗ وَمَا كَانَ ٱللَّهُ لِيُضِيعَ إِيمَٰنَكُمۡۚ إِنَّ ٱللَّهَ بِٱلنَّاسِ لَرَءُوفٞ رَّحِيمٞ ١٤٣﴾ [البقرة:143-143]

143. And thus we have made you a just community that you will be witnesses over the people and the Messenger will be a witness over you. And We did not make the qiblah which you used to face except that We might make evident who would follow the Messenger from who would turn back on his heels. And indeed, it is difficult except for those whom Allah has guided. And never would Allah have caused you to lose your faith. Indeed Allah is, to the people, Kind and Merciful. [Al Baqarah:143].

﴿وَٱقۡصِدۡ فِي مَشۡيِكَ وَٱغۡضُضۡ مِن صَوۡتِكَۚ إِنَّ أَنكَرَ ٱلۡأَصۡوَٰتِ لَصَوۡتُ ٱلۡحَمِيرِ ١٩﴾ [لقمان:19-19]

19. And be moderate in your pace and lower your voice; indeed, the most disagreeable of sounds is the voice of donkeys." [Luqman:19]. This verse teaches Muslims to be moderate and not excessive in their behavior and speech, reflecting a moderate attitude in life. These three terms, khaira ummah, ummatan wasata, and ummah muqtasidah, reflect the concept of a madani society desired in Islam. This best, balanced, and moderate community is expected to lead a just, moral, and harmonious life, and to serve as a model for other nations. By following the guidance of the Quran, Muslims can form an excellent madani society in all aspects of life, both physical and spiritual (Nasir et al., 2024). Recently, the term "madani" has frequently been mentioned among the Malaysian community. This follows the declaration of a new national concept by the Prime Minister of Malaysia, YB Dato' Seri Anwar Ibrahim, on January 19, 2023. He introduced the Malaysia Madani Concept (GMM) as the foundation of his new leadership. This policy aims to make Malaysia a progressive, prosperous, competitive, and harmonious nation among its citizens. GMM was established to renew the governance and administration strategies of the country more effectively. This policy focuses on empowering the economy and culture based on values, ethics, and morals. Therefore, GMM will be implemented across various sectors to form a madani society in various aspects. A madani society is one that is advanced in terms of thought, spirituality, and material well-being. These three aspects shape the lifestyle of the community by instilling noble values in physical and spiritual life (Nasir et al., 2024).

Sustainable light pollution conservation

Sustainability important concept as the world becomes increasingly important for it. The reason behind its essentiality is that the world has been in conflict of balancing the need for environmental preservation against the requirement of human development

(Nawawi et al., 2021). The whole idea behind sustainability is to meet the needs of the present without compromising the ability of future generations to meet their own needs. The concept incorporates the host of disciplines: ecological balance, economic stability, and social well-being (Faid et al., 2019). The idea of sustainability has been long discussed by scholar, but it gained a significant traction in the late 20th century. The term itself conceptualized with the publication of the Brundtland Report in 1987, titled "Our Common Future." Sustainability is based on by three core: environmental, economic, and social sustainability. (1) Environmental Sustainability: Keeping the health of the ecosystems integral to the planet is at the core of this pillar. Having practices in place that protect natural resources, reduce pollution, and mitigate climate change is critical. Key practices include conservation of biodiversity, encouragement toward using renewable energy sources, and sound agricultural practices. It also includes careful management of water resources, forests, and fisheries, all designed to remain viable into the indefinite future (Mejía et al., 2024). (2) Economic Sustainability: To promote economic growth that is paralel with the social, environmental, and cultural dimensions of the community. Economic sustainability results in stable and prosperous economies that produce opportunities that are fair and give equitable access for all. Other practices under this include promotion of green jobs, corporate social responsibility, and fostering innovations in sustainable technologies and practices. It also includes formulation of economic policies that will enhance long-term growth and resilience (Uwuigbe et al., 2024). (3) Social Sustainability: Social sustainability emphasis on improving the quality of life for all people. It highlight to importance social equity, access to essential services, cultural diversity, and community development. Key practices in this area include access to education, healthcare, social inclusion, and protection of human rights. It also involves the making of communities that are safe, healthy, and resilient (Najia et al., 2025).

Light pollution is the excessive or misdirected artificial light created by human activities. It is an adverse impact on some outdoor lighting that has an effect on the environment, affects human health, and our ability to observe the night sky (Faid et al., 2016). There are different kinds of light pollution, each with a special characteristic and set of effects: (1) Skyglow: The brightening of the night sky over populated areas, as a result of scattering artificial light in the atmosphere. Skyglow greatly minimizes the visibility of stars and other celestial bodies, affecting astronomical observations and devaluing the natural beauty of the night sky. (2) Glare: When there is more light than required, it creates discomfort to the eyes. It is a problem to the drivers and pedestrians; it reduces visibility resulting in accidents. This also affects the night vision of a person - the temporary blindness one gets does not allow vision of hazards. (3) Light Trespass: Unwanted or intrusive light that spills over into areas where it is not needed or wanted, such as residential areas. Light trespass can disturb the sleep of residents, reduce the quality of life, and infringe on personal privacy. (4) Clutter: Bright, confusing, and excessive groupings of light sources, often found in over-illuminated urban areas. Clutter can contribute to visual pollution, making it difficult for people to navigate and appreciate their surroundings. It also creates a chaotic visual environment that can be distracting and disorienting.

Light pollution is mainly created by an overabundance and misuse of artificial light. A few causes are the growth of urban areas, increased use of outdoor lighting, and proliferation of electronic displays (Faid et al., 2023). (1) Poorly Designed Lighting Fixtures: Fixtures which are not directed downwards or shielded from being spilled in

undesired areas contribute substantially to the problem of light pollution. They usually emit light in all directions, leading to skyglow, glare, and light trespass. (2) Excessive Lighting: The public and commercial spaces as well as the residential properties get excessively lit up leading to unwanted light pollution. Several areas remain excessively lighted more than it is necessary for safety and usage, thus wasting energy and causing more pollution. (3) Inappropriate Use of Lighting: Lights on when not needed, bad timing for lighting schedules, and the use of too bright lights. For instance, overlighting security lights or leaving them on all night long can cause glare and light trespass. (4) Reflective Surfaces: Light reflecting off surfaces such as buildings, roads, and other structures can enhance the light pollution effect. These reflective surfaces spread the light in different directions, which builds up more sky glow and glare.

Materials and Methods

The methodology would involve the analysis of existing definitions and principles concerning the concept of the Madani Society. These include official documents, publications, speeches, as well as policy statements by state agencies in Malaysia defining and discussing the concept of the Madani Society. As part of this work, this research paper would also review some of the papers which have been commissioned by think tanks, research institutions, and other non-governmental organizations in Malaysia regarding the exploration of the principles, objectives, and implementation strategies of the Madani Society. In this context, planning documents and guidelines within urban planning which adopt or refer to the ideals of Madani Society in urban development and community planning are reviewed. In addition, the work by the Madani Society is analyzed in research carried out at the academic level in articles, books, and conference papers by sociologists, political scientists, and urban studies scholars on the theoretical and practical use of the Madani Society. The methodology is a detailed study with an emphasis on academic material relating to light pollution and sustainability, finding how the Madani Society could contribute toward development by sustainable light pollution conservation. This is carried out by scrutinizing articles from peer-reviewed journals in the fields of environmental science, urban planning, and sustainability studies for themes, methodologies, findings, and recommendations. Lastly, important books and papers published by academic conferences will be researched in order to get as much insight as possible from the best researchers and opinion leaders in the field. The synthesis of literature shall be presented in a general overview that will be sourced from and critically reviewed against a broad spectrum of academic sources in the form of journal articles, books, and conference papers.

This process is going to enable me to understand in detail the state of knowledge on light pollution and sustainability and how this fits into making the Madani Society. Thematic analysis will be performed to identify emerging themes, patterns, and trends throughout the literature regarding sources and impacts of light pollution, ways to mitigate it, and policy and technology supporting sustainability. Besides, it is going to compare and contrast the different viewpoints and findings in each, thus bringing out areas where there is consensus and issues that are under debate. This review critically assessed methodologies and outcomes drawn from different studies. The impact analysis is going to assess how the findings of academic research have influenced policy and practice on light pollution reduction and sustainability, particularly in the context of Madani Society development. This involves the establishment of the extent to which

research has resulted in effective policy, regulation, and practice development, and implementation in line with a Madani Society. Specific case studies will be looked at to illustrate where academic research has actually impacted real-world applications, such as changes in urban planning guidelines or the adoption of new lighting technologies. In addition, the impact analysis will enable the identification of gaps in the current literature and present a recommendation for future research, offering recommendations to undertake more studies that can enrich understanding on the same and solve the unresolved questions on light pollution and sustainability. This would be useful in enhancing approaches and methodologies of innovation and an interdisciplinary approach in dealing with light pollution. This methodology shall attempt to focus on academic literature and provide an overview of current knowledge comprehensively, identify consensus, debate areas while evaluating the practical impact of research on policy and practice. It is within this focus that actionable strategies shall be advised toward enhancing light pollution conservation and sustainability within the Madani Society framework in Malaysia, therefore realizing a balanced and harmonious community engaging in the practice of moral and ethical values while at the same time protecting the environment.

Results and Discussion

Linking the Madani Society with sustainable light pollution conservation on human health

The Madani Society in Malaysia, emphasizing justice, equality, and communal well-being, can significantly benefit from integrating sustainable light pollution conservation, particularly concerning human health. This integration enhances the overall quality of life, aligning with the society's core principles. Presently, the Madani Society supports health and well-being, but the widespread problem of light pollution in cities can disturb people's sleep. Exposure to artificial light at night, especially blue light from LEDs and screens, can cause insomnia and other sleep issues by reducing melatonin production. Ensuring everyone has a healthy living environment means addressing factors like light pollution that affect sleep quality. Reducing light pollution can improve sleep, boost overall health, and reduce pressure on healthcare services. Research shows that areas with less light pollution have better sleep quality and fewer sleep-related health problems (Cupertino et al., 2023). Excessive artificial lighting, especially in crowded areas, can increase stress and anxiety. Constant exposure to bright lights disrupts the natural environment and overwhelms the senses. Tackling environmental factors that cause stress and anxiety is crucial for creating a peaceful and healthy society. Ensuring that everyone has access to environments that support mental health aligns with the Madani Society's principle of justice. Research indicates that lower levels of artificial light at night are linked to reduced stress and anxiety, improving mental health. Community-wide efforts to reduce light pollution have positively impacted mental health in places like South Downs National Park, UK (Baddiley, 2021).

Prolonged exposure to artificial light at night has been linked to various chronic health conditions, including obesity, diabetes, and heart diseases. These issues are worsened by disrupted sleep patterns and poor sleep quality. Tackling the root causes of these health problems through better environmental management ensures everyone can live healthier lives. Reducing chronic disease rates leads to a healthier, more productive community, aligning with the communal well-being goals of the Madani Society.

Research shows a clear link between exposure to artificial light and higher risks of chronic health conditions. Lowering light pollution can reduce these risks. Communities that have implemented strict light pollution controls report fewer light-related health problems, demonstrating the benefits of sustainable lighting practices (Falchi et al., 2011). Proper lighting is important for keeping communities safe, but it should also minimize light pollution. Too much bright or misdirected light can cause glare and shadows, making it harder to see and possibly increasing crime rates. It's important to ensure everyone feels safe without harming their health or the environment. Using smart, sustainable lighting can help keep communities safe while protecting the night sky and improving overall well-being. Studies show that good lighting design can enhance visibility and safety without the negative effects of excessive lighting (Menculini et al., 2024).

Linking the Madani Society with sustainable light pollution conservation on biodiversity

The Madani Society, which prioritizes justice, equality, and communal well-being, can significantly benefit from incorporating sustainable light pollution conservation practices, particularly concerning biodiversity. The health of ecosystems and the survival of various species are intrinsically linked to the natural light-dark cycles. Addressing light pollution can help preserve biodiversity, aligning with the principles of the Madani Society. Currently, nocturnal animals, which are active during the night, rely on darkness for foraging, mating, and navigating. Artificial lighting disrupts these natural behaviors, leading to reduced feeding opportunities, increased predation risks, and disturbed reproductive cycles. Ensuring that human activities do not disproportionately harm wildlife is an aspect of environmental justice, which is integral to the Madani Society. Biodiversity is essential for ecosystem services that humans rely on, such as pollination, pest control, and nutrient cycling. Protecting nocturnal wildlife supports these services. Research shows that reducing light pollution can restore natural behaviors in nocturnal species, improving their survival and reproduction rates (Stöckl and Foster, 2022). Many bird species rely on natural light cues for navigation during migration. Artificial light sources can disorient them, leading to increased mortality rates due to collisions with buildings and exhaustion from prolonged detours. Protecting migratory species from the adverse effects of artificial lighting is a form of ecological justice. Migratory birds contribute to pest control, seed dispersal, and cultural heritage, all of which enhance community well-being. Evidence suggests that dimming or turning off lights during peak migration periods can significantly reduce bird mortality. Cities like Chicago have implemented "Lights Out" programs during migration seasons, resulting in fewer bird fatalities and supporting biodiversity (Burt et al., 2023).

Marine species, such as sea turtles, are also affected by light pollution. Hatchling turtles use natural light cues to find their way to the ocean. Artificial lighting can disorient them, leading to increased predation and mortality. Ensuring the survival of marine species by mitigating human impact aligns with the equality aspect of the Madani Society. Healthy marine ecosystems contribute to fisheries, tourism, and coastal protection, benefiting human communities. Research demonstrates that reducing beachfront lighting can dramatically increase the survival rates of sea turtle hatchlings. Coastal areas in Florida have adopted stringent lighting regulations during turtle nesting seasons, leading to successful conservation outcomes. Artificial light can disrupt the interactions between plants and their nocturnal pollinators, such as moths and bats. This

disruption can lead to reduced pollination rates and lower plant reproduction success. Maintaining healthy plant-pollinator relationships ensures the continued availability of food crops and other plant resources vital for human communities. Protecting these interactions is a form of environmental justice, ensuring that human activities do not disproportionately harm ecological relationships. Studies have shown that minimizing light pollution can enhance nocturnal pollination, leading to healthier plant populations and more robust ecosystems. Projects in Europe have successfully demonstrated that reducing light pollution in agricultural areas can boost pollinator activity and crop yields.

Linking the Madani Society with sustainable light pollution conservation in Islamic astronomy

The Madani Society in Malaysia, founded on principles of justice, equality, and communal well-being, can be greatly enhanced by incorporating sustainable light pollution conservation, particularly concerning Islamic astronomy. Islamic astronomy is essential not only for its heritage and scientific contributions but also for determining key religious timings, such as the Subh (Fajr) and Isyak (Isha) prayers, which rely on sky brightness. Currently, light pollution severely hampers the visibility of stars and celestial objects, which are crucial for astronomical observations. Islamic astronomers need clear skies for moon sightings to determine the Islamic calendar, including the start of Ramadan and Eid, and for accurately setting prayer times. Ensuring that all communities, including Islamic astronomers, have access to clear night skies is a matter of justice and equality, allowing them to fulfill their religious and scientific duties without obstruction. Additionally, clear night skies support communal well-being by preserving cultural and religious practices tied to astronomy. Research demonstrates that reducing light pollution enhances the visibility of celestial bodies, crucial for accurate astronomical observations. For instance, Saudi Arabia has implemented light pollution regulations near observatories to support Islamic astronomical practices (Maneja et al., 2023). The times for Subh and Isyak prayers are based on the sky's brightness, with Subh beginning at dawn's first light and Isyak starting when dusk's last light fades. Light pollution can distort these natural light cues, leading to inaccurate prayer times. Ensuring accurate prayer times is a right for all Muslims, allowing them to fulfil their religious obligations properly. Reducing light pollution helps ensure these times are observed correctly, fostering spiritual well-being and communal harmony-key elements of the Madani Society. Research indicates that artificial light at night affects the perception of dawn and dusk, impacting prayer time accuracy. Islamic scholars and astronomers in regions with strict light pollution controls report more accurate and consistent prayer times (Nawawi et al., 2024).

Proposal for the law of sustainable light pollution conservation within the Madani Society framework

Due to the immense effects of light pollution on the Madani Society, there is a critical need for a law on sustainable light pollution conservation in Malaysia. Light pollution not only disrupts human health and biodiversity but also hinders the practice of Islamic astronomy, including the accurate determination of prayer times. Integrating sustainable light pollution conservation practices into the legal framework will align with the Madani Society's principles of justice, equality, and communal well-being

(Baharuddin and Tumiran, 2025). The proposed law will include standards for directional lighting, intensity control, and color temperature to minimize blue light emissions. Curfew regulations, motion sensors, and designated Dark Sky Reserves and observatory protection zones will further mitigate light pollution. Public awareness campaigns and educational programs will be essential for fostering community understanding and compliance. Monitoring systems will ensure enforcement, with penalties for non-compliance and incentives for sustainable practices. Implementing this law will reduce skyglow, glare, and light trespass, resulting in clearer night skies, improved human health, protected biodiversity, and support for Islamic astronomical practices. This comprehensive approach will ensure a sustainable and harmonious environment, enhancing the quality of life for all Malaysians in accordance with the values of the Madani Society (*Table 1*).

Table 1. *Linking the Madani Society with sustainable light pollution conservation: Impacts and solution.*

Aspect	Impact of Light Pollution	Sustainable Solutions	Case Studies/Research	Impact on Madani Concept of Sustainability
Sleep and Health	Disrupts sleep by reducing melatonin production, leading to insomnia and other sleep issues.	Reduce blue light exposure from LEDs and screens, promote dark sky initiatives.	Cupertino et al. (2023)	Ensuring justice by promoting healthy sleep for all, reducing health disparities.
Mental Well-being	Increases stress and anxiety due to constant exposure to artificial lighting.	Implement community-wide efforts to lower artificial lighting in urban areas.	Baddiley (2021)	Fostering communal well-being by reducing stress and enhancing mental health.
Chronic Diseases	Linked to obesity, diabetes, and heart diseases due to disrupted sleep patterns.	Adopt better environmental management and reduce nighttime artificial lighting.	Falchi et al. (2011)	Promoting equality by addressing environmental factors contributing to chronic diseases.
Community Safety	Excessive lighting creates glare and shadows, reducing visibility and potentially increasing crime rates.	Use smart lighting systems to improve safety without excessive illumination.	Menculini et al. (2024)	Balancing safety and sustainability, ensuring community security without excessive light.
Nocturnal Wildlife	Affects foraging, mating, and navigation, reducing survival rates of nocturnal species.	Limit artificial lighting in natural areas to protect nocturnal species.	Stöckl and Foster (2022)	Upholding justice by protecting biodiversity and preventing harm to nocturnal species.
Migratory Birds	Disorients migratory birds, increasing mortality rates due to collisions and exhaustion.	Implement 'Lights Out' programs during bird migration periods.	Burt et al. (2023)	Maintaining ecological balance and communal well-being by safeguarding migratory birds.
Marine Species	Disrupts hatchling turtles' orientation, leading to increased predation and mortality.	Enforce strict lighting regulations near nesting sites.	-	Promoting equality by preserving marine ecosystems, benefiting fisheries and communities.
Plant-Pollinator Interactions	Interferes with nocturnal pollination, reducing plant reproduction and ecosystem health.	Reduce light pollution in agricultural areas to support nocturnal pollinators.	European agricultural studies on pollinator activity	Sustaining food security by ensuring effective plant pollination and ecosystem health.
Islamic Astronomical Observations	Reduces visibility of celestial objects, affecting Islamic astronomy and moon sighting.	Implement light pollution controls near observatories and Islamic astronomical sites.	Maneja et al. (2023)	Preserving Islamic heritage and scientific knowledge by enabling clear night sky visibility.
Prayer Time Accuracy	Artificial light at night affects the perception of dawn and dusk, impacting prayer time accuracy.	Reduce artificial light in areas affecting dawn and dusk observations.	Nawawi et al. (2024)	Ensuring accurate religious practices, promoting spiritual well-being and community harmony.

Conclusion

The integration of sustainable light pollution management into the broader vision of a Madani society reveals not merely an environmental concern, but a deeply interconnected socio-moral imperative. This study demonstrates that light pollution, often overlooked in public discourse, poses multidimensional risks to human health, ecological stability, spiritual life, and societal well-being. By situating these risks within the ethical and justice-oriented framework of the Madani concept, the paper critically argues that addressing light pollution is not optional; it is foundational to fulfilling the aspirations of a balanced, humane, and value-driven society. At the core of Madani principles lies justice, moderation, and collective responsibility, all of which are compromised when communities experience degraded health, disrupted ecosystems, and weakened cultural-religious practices due to excessive artificial lighting. Light pollution disrupts circadian rhythms, increases mental health burdens, and elevates risks of chronic diseases, conditions that disproportionately affect urban and vulnerable populations. A society committed to justice cannot ignore environmental determinants of health. Thus, sustainable light governance becomes a mechanism for reducing health inequities and affirming the ethical obligation to safeguard community well-being.

The impacts on biodiversity further illuminate the ecological dimension of justice. Nocturnal wildlife, migratory birds, sea turtles, and plant–pollinator systems all depend on natural darkness. Their disruption due to artificial illumination reveals an anthropocentric imbalance inconsistent with the Madani ethos of harmony between humans and nature. The survival of these species directly affects ecosystem services, including food security, pest regulation, and marine resources, which means that ecological degradation, ultimately returns as a human cost. Protecting the night environment, therefore, strengthens the resilience of natural ecosystems that underpin long-term societal prosperity. Equally significant is the disruption of Islamic astronomical practices, a domain that blends scientific heritage with religious observance. Light pollution undermines moon sighting, prayer time accuracy, and the broader visibility of celestial bodies that historically shaped Islamic scholarship. In a Madani framework, where spiritual well-being, cultural continuity, and knowledge preservation are valued, such disruptions represent both a scientific and spiritual loss. By ensuring darker skies through informed policy and technological stewardship, Malaysia upholds not only environmental responsibility but also its religious and cultural identity.

Critically, the paper highlights the necessity of a legal and regulatory framework that embeds sustainable lighting standards, dark-sky protection zones, and community education. Without institutionalization, light pollution will continue to escalate alongside urbanization. A dedicated law signals national commitment and provides enforceable mechanisms for implementation, accountability, and long-term environmental governance. It also enables Malaysia to align with global sustainability goals while contextualizing policy within its own ethical-philosophical traditions. In sum, sustainable light pollution management is not merely a technical intervention but a transformative pathway toward realizing the ideals of a Madani society. By restoring natural nightscapes, protecting ecosystems, improving public health, and reaffirming spiritual practices, Malaysia moves closer to a model of civilization grounded in justice, moderation, and holistic well-being. Addressing light pollution becomes both a moral

responsibility and a strategic investment in the nation's sustainable and harmonious future.

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Conflict of interest

The authors confirm that there is no conflict of interest involve with any parties in this research study.

REFERENCES

[1] Baddiley, C. (2021): Light pollution colour changes at MHAONB, from distant town conversions to blue-rich LED lighting, implications for rural UK skies. – Journal of Quantitative Spectroscopy and Radiative Transfer 267: 38p.

[2] Baharuddin, B.H., Tumiran, M.A. (2025): SOCIAL-EMOTIONAL LEARNING IN PRESENT EDUCATION SYSTEM: A CONTENT ANALYSIS. – Quantum Journal of Social Sciences and Humanities 6(2): 213-225.

[3] Burt, C.S., Kelly, J.F., Trankina, G.E., Silva, C.L., Khalighifar, A., Jenkins-Smith, H.C., Fox, A.S., Fristrup, K.M., Horton, K.G. (2023): The effects of light pollution on migratory animal behavior. – Trends in Ecology & Evolution 38(4): 355-368.

[4] Cupertino, M.D.C., Guimaraes, B.T., Pimenta, J.F.G., Almeida, L.V.L.D., Santana, L.N., Ribeiro, T.A., Santana, Y.N. (2023): LIGHT POLLUTION: a systematic review about the impacts of artificial light on human health. – Biological Rhythm Research 54(3): 263-275.

[5] Faid, M.S., Husien, N., Shariff, N.N.M., Ali, M.O., Hamidi, Z.S., Zainol, N.H., Sabri, S.N.U. (2016): Monitoring the level of light pollution and its impact on astronomical bodies naked-eye visibility range in selected areas in Malaysia using the sky quality meter. – In 2016 International Conference on Industrial Engineering, Management Science and Application (ICIMSA), IEEE 6p.

[6] Faid, M.S., Nawawi, M.S.A.M., Saadon, M.H.M., Nahwandi, M.S., Shariff, N.N.M., Hamidi, Z.S., Wahab, R.A., Norman, M.P., Ahmad, N. (2023): Confirmation methodology for a lunar crescent sighting report. – New Astronomy 103: 9p.

[7] Faid, M.S., Shariff, N.N.M., Hamidi, Z.S. (2019): The risk of light pollution on sustainability. – ASM Science Journal 12(2): 134-142.

[8] Falchi, F., Cinzano, P., Elvidge, C.D., Keith, D.M., Haim, A. (2011): Limiting the impact of light pollution on human health, environment and stellar visibility. – Journal of Environmental Management 92(10): 2714-2722.

[9] Fernandez, K. (2024): Legal experts colluding with the political and economic elites in justifying corruption: the case of Malaysia's Madani goverment. – Humanities and Social Sciences Communications 11(1): 1-7.

[10] Iskandah, M.F.B., Kamrin, R.S.H.R., Abdullah, I.H.T., Mohamad, W.M.F.W., Ahmad, M.M.A. (2024): Balancing Human Ideals in Developing Ihsan of Malaysia Madani. – In Business Sustainability with Artificial Intelligence (AI): Challenges and Opportunities, Cham: Springer Nature Switzerland 1: 8p.

[11] Maneja, R.H., Flandez, A.V.B., Syed, A.H., Baig, M.H., Tiwari, S.P., Gopalan, J., Alnuwairah, M., Asiri, Y.Y., Reshi, O.R., Alzoghiby, I.A., Angari, M. (2023): Assessment of the Evolution of Nighttime Light Pollution Reaching Sea Turtle Nesting

Sites Along the Eastern Coast of Saudi Arabia Using Remote Sensing and in-Situ Data. – In IGARSS 2023-2023 IEEE International Geoscience and Remote Sensing Symposium, IEEE 4p.

[12] Mejía, V.L.V., Grados, J.E., Núñez, F.R.B., Ticona, I.L.Q. (2024): Educación para la sostenibilidad: Una mirada valorativa hacia las tecnologías del aprendizaje y el conocimiento por graduados. Clío. – Revista de Historia, Ciencias Humanas y Pensamiento Crítico 21p.

[13] Menculini, G., Cirimbilli, F., Raspa, V., Scopetta, F., Cinesi, G., Chieppa, A.G., Cuzzucoli, L., Moretti, P., Balducci, P.M., Attademo, L., Bernardini, F. (2024): Insights into the Effect of Light Pollution on Mental Health: Focus on Affective Disorders-A Narrative Review. – Brain Sciences 14(8): 19p.

[14] Nawawi, M.S.A.M., Faid, M.S., Norman, M.P. (2021): Issue of sustainability on light pollution from the perspective of maqasid shariah. – Journal of Fatwa Management and Research 26(2): 1-9.

[15] Nawawi, M.S.A.M., Faid, M.S., Saadon, M.H.M., Wahab, R.A., Ahmad, N. (2024): Hijri month determination in southeast asia: An illustration between religion, science, and cultural background. – Heliyon 10(20): 13p.

[16] Najia, N., Taher, H., Elkader, G.A. (2025): The effect of environmental deterioration and socio-cultural factors on economic sustainability in asia pacific selected countries. – International Journal of Energy Economics and Policy 15(1): 8-14.

[17] Nasir, M.F.M., Suradi, N.R., Ismail, W.R. (2024): Talent management, commitment to organization, organizational performance: A framework in public service. – In AIP Conference Proceedings, AIP Publishing LLC 3150(1): 8p.

[18] Stöckl, A.L., Foster, J.J. (2022): Night skies through animals' eyes-Quantifying night-time visual scenes and light pollution as viewed by animals. – Frontiers in Cellular Neuroscience 16: 19p.

[19] Sualman, I. (2024): The Perception and Understanding of Malaysia Madani's Core Values. – In Business Sustainability with Artificial Intelligence (AI): Challenges and Opportunities, Cham: Springer Nature Switzerland 1: 9p.

[20] Uwuigbe, U., Issah, O., Ranti, U.O., Zubeiru, M., Anaba, S., Seidu, A.A.J. (2025): Circular economy: a bibliometric review of research in emerging economies (2010-2024). – International Journal of Energy Economics and Policy 15(1): 77-89.