RELIGION AS AN EFFECTIVE TOOL IN ENVIRONMENTAL PRACTICES: A CASE STUDY OF KHUNJERAB NATIONAL PARK, GILGIT-BALTISTAN, PAKISTAN

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Abstract. This paper examines the contribution of religion to environmental sustainability, paying attention to the impact of religious beliefs, religious practices, and religious leaders in the context of the Khunjerab National Park (KNP) in Gilgit-Baltistan, Pakistan. Using structural equation modeling (SEM), this study analyses data gathered from 500 respondents in KNP to examine the relationship between religious beliefs, religious practices, religious leaders, and environmental sustainability. The results show a strong positive relationship between religious beliefs and environmental sustainability (path coefficient = 0.516), indicating that in this sample, those with more devout beliefs were more likely to act pro-environmentally. Religiosity does have a significant effect on environmental sustainability (coefficient path = 0.454), suggesting that although they are significant cultural phenomena, their role in the adoption of sustainable practices is also paramount. The impact of religious leaders is also noteworthy, as the relatively high path coefficient of 0.400 underlines the importance of religious leadership in inspiring communities to pursue sustainable practices. The model accounts for 90.3% variance in environmental sustainability behaviors ($R^2 = 0.903$), meaning the combined influences of religious beliefs, practices, and leadership provide a strong explanatory scope over environmental actions. The findings have significant implications for environmental policy and religious communities.
Keywords: *faith-based management, sustainable development, environmental stewardship, community engagement, protected zones management*

Introduction

In the era of rapid climate change, depletion loss of biodiversity, and over-consumption of natural resources, environmental conservation has become a pressing worldwide concern. These often require innovative solutions that address the challenges of cultural, social, and ethical factors involved alongside more traditional approaches to conservation. With its deep impact on human values, behaviors, and community norms, and given its influence on people worldwide, religion provides a potentially potent instrument of environmental stewardship. (Jenkins and Chapple, 2011) notes that in communities where faith is at the heart of everyday life, teachings, and practices from different religions can motivate communities to engage in sustainable environmentally friendly behaviors. Khunjerab National Park, situated in the high mountain region of Gilgit-Baltistan, Pakistan, is an example of an ecological gem facing environmental pressures. Covering a large part of the Karakoram Range, this park is recognized as a home to endangered habitat such as the snow leopard and Marco Polo sheep and holds cultural and spiritual significance for local communities. Despite ongoing conservation efforts by the government and NGOs, the park is still vulnerable to threats like deforestation, overgrazing, and climate change. Strengthening the bonds of spiritual

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personality, or spirituality in ecological harmony becomes a means of using religion for ecological balance (Kowanda-Yassin, 2021).

As for Islam, it stresses stewardship which makes the conservation of natural wealth a moral/religious responsibility (Khan, 2012). This study aims to provide insight into the direct and indirect ways that religion shapes environmental practices in the Khunjerab National Park through religious beliefs, practices, and religious leaders. Through analyzing the relationship between religion, faith, and conservation, the study strives to understand religious beliefs in a way that demonstrates the potential of utilizing them as viable instruments for natural resource management, especially in areas that are ecologically sensitive and culturally diverse, such as Gilgit-Baltistan. According to the study, such work helps to build a bridge between religion and environmental science objectives. It offers a culturally sensitive framework to be drawn on for such work around conservation (El Jurdi et al., 2017). In addition, it offers empirical insights determining the role of religion in encouraging sustainable practices which could play a crucial role in formulating community-led conservation initiatives in Pakistan. Saving the planet is a popular topic nowadays and compelling ways to encourage conservation even more so. This research discusses how religion can be a powerful tool in the promotion of environmental stewardship. The study takes place at Khunjerab National Park in Gilgit-Baltistan, Pakistan, where local religious beliefs strongly affect daily life.

Khunjerab (Karakoram) National Park of Pakistan (KNP)

KNP is located in the Gilgit-Baltistan area of northern Pakistan and has unique environmental resources. Central Park encompasses some of the top peaks and most gigantic mountain ranges globally and this Park is world-famous for hiking opportunities The Park covers an area of approximately 10,000 km^2. It contains four peaks that are possibly the best in the world at 8000 m above sea level: Gasherbrum-I (8068 m), K2 (8611 m), Broad Peak (8051 m), and Gasherbrum-II (8035 m), as well as 60 peaks that are higher than 7000 m above sea level. In all parks, the benefits to local communities are the same. These include forestry and tourism, mining; cropland; wildlife; trees; aromatic plants, livestock, water, and preserving local community culture and traditions. Central Karakoram is a mountain region in Pakistan's Gilgit-Baltistan renowned for its diverse biodiversity, natural beauty, and wealth of natural resources. The Park protects the largest glaciers on the planet that are not found in the Polar Regions. Since its establishment in 1993, the Khunjerab (Karakoram) National Park (KNP) has grown to become the country's largest protected area, covering more than 10,557.73 km^2, which includes K2, the world's second-highest peak. It is divided into seven administrative districts in the Gilgit-Baltistan region. A zoning scheme has been implemented to promote the preservation of the ecological integrity of Karakoram National Park while also providing opportunities for sustainable management for local communities and tourists. The Buffer Zone (B.Z.) encourages a harmonious relationship between protecting biodiversity and ensuring the long-term viability of renewable natural resource resources. It advocates for preserving parks, traditional modes of land use, and social and cultural aspects of a community's environment. With a total area of 2950.9 km^2, it is associated with the idea of KNP (*Fig. 1*).

Several non-governmental organizations and the Pakistani Government have expressed an interest in preserving and sustaining the Park's resources to recognize the Park's international significance. Beyond the local community, global interests in

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natural resource conservation worldwide will benefit from this initiative and the local community. Recent years have seen a slew of programs and policies put in place by the Government and non-governmental organizations to protect KNP; however, disagreements over the Park's various uses have raised some questions about how the Park should be managed. As part of this study, perspectives from the tourists on the environmental sustainability of KNP, park use, what the visitors can do to protect the environment, and recommendations to government and non-governmental organizations are being sought (*Fig. 2*).

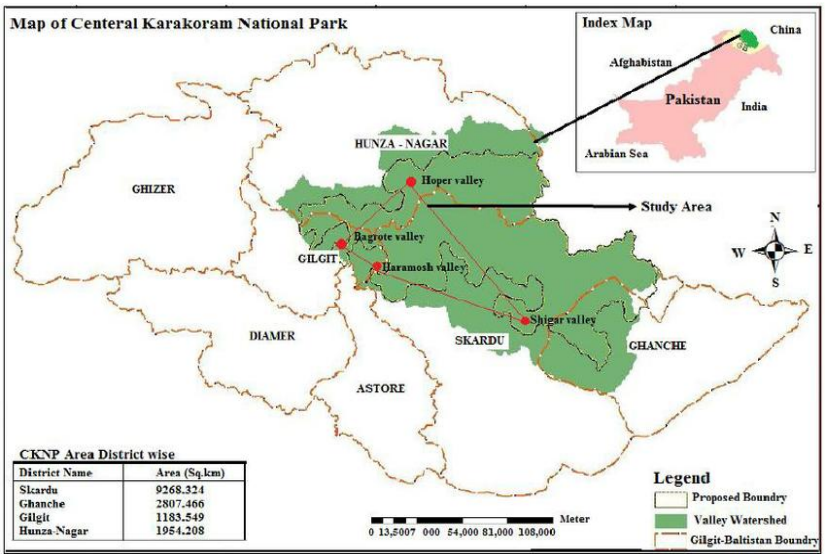

Figure 1. *Geography of Karakoram National Park (KNP), Pakistan*

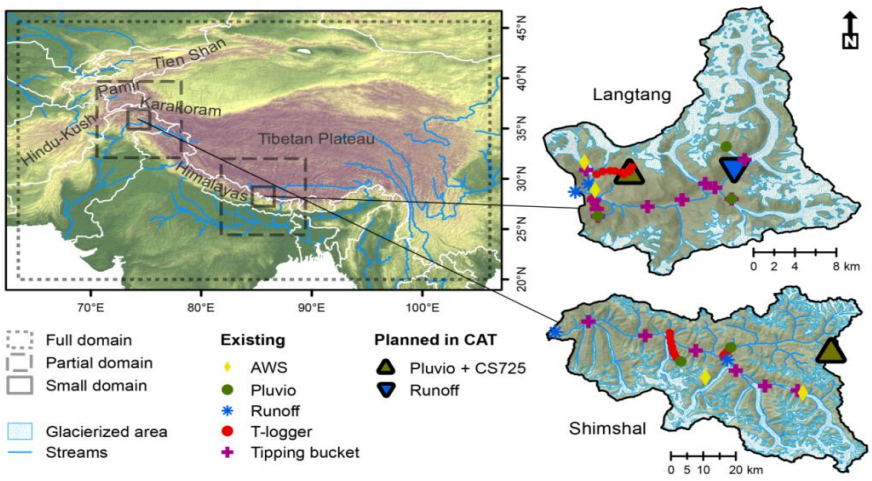

Figure 2. *Study Area of Khunjerab National Park. Study area map showing the spatial distribution of existing and planned hydrometeorological monitoring stations in the Karakoram region*

Literature review

In recent years, the role of religion in environmental conservation has been a subject of vibrant discussion as researchers and policy practitioners have begun

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recognizing the potential of faith-based action to mitigate ecological problems. This overview explores the existing literature on the amalgamation of religion and environmental practices as a whole, but with a specific lens on how it relates to conservation efforts in sensitive ecological sites such as Khunjerab National Park in Gilgit-Baltistan, Pakistan.

Theoretical foundations: religion and environmental ethics

Many religious doctrines function as a set of guiding principles that shape the moral and ethical outlook of individuals and communities (Shuaibu et al., 2018). Stewardship, as a concept and practice, finds itself in many religions, grounded in the notion that humans are caretakers of the Earth, charged with its protection (Mcleod and Palmer, 2015). In Islam, this internal relationship comes under the concept of stewardship, which calls for the maintenance of ecological balance and that no harm be caused to natural resources (Jenkins and Chapple, 2011). Likewise, other religions including Christianity, Hinduism and Buddhism tend to highlight connectedness with nature and support sustainable lifestyle (Hitzhusen and Tucker, 2013). Then, using these teachings as a platform I explore religion as a driver for environmental action (Ali and Shedayi, 2023).

Using religion to environmental practices

Belief-based initiatives have demonstrated potential across multiple worldwide scenarios (Kreutzmann, 2013). Religious organizations and leaders have been found helpful in mobilizing communities to practice sustainability (Khan, 2012). In Indonesia, for example, Islamic leaders have successfully incorporated environmental messages into sermons advocating for conservation efforts and reducing deforestation (Carbone et al., 2016). In India, in particular, sacred groves are biodiversity hotspots that have been supported by community activism driven by Hindu religious traditions of protecting sacred groves (Leal Filho et al., 2019). I believe Islamic environmental ethics, in particular, provide a holistic framework for eco-sustainability (Pawlewicz and Senetra, 2024). The Quran and Hadith advocate moderation and prohibition of sanctity (Shinde, 2011). Such principles resonate with modern-day sustainability objectives, implying that religion could play a role in bridging traditional values and contemporary environmental science (Moyer, 2015). Religious beliefs also influenced ideas about the relationship between humans and the environment, with Muslim and Christian participants invoking divine creation and the God given responsibility of stewardship, while secular participants remarked on evolution and human responsibility to self-regulate and co-exist with other species. Participants with a Muslim background drew on religious texts to argue that the ongoing burning of fossil fuels and geological storage of waste CO_2 would be immoral because they were likely to undermine nature's equilibrium (the world created by Allah), leave a questionable legacy for future generations. Christian participants pointed to scripture as well, but framed the relationship between humans and the environment in terms of human welfare and the commandment to love others (Hope and Jones, 2014).

The influence of religious leaders

Religious leaders wield significant power and influence in numerous societies, especially in culturally dense and spiritually affectionate areas like Gilgit-Baltistan.

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Research has shown that religious figures have the capacity to sway opinions and influence behavior through sermons, community activities, and moral status (Afolabi, 2015). In Tanzania, for instance, Christian and Muslim leaders worked with each other to raise awareness about climate change and eventually formed community-led conservation projects (Koehrsen, 2021). Likewise, focused on health care, religious figures have played a significant role in disaster management and vaccination drives in Pakistan, emphasizing their role in socio-ecological action as well (Hodge, 2000). However, in the case of Gilgit-Baltistan, where Islam is embedded in the cultural identity, the religious leaders can contribute significantly towards eco-friendliness by either introducing them in their sermons or through public discourse, which can naturally unite masses against overgrazing and deforestation.

The role of community and faith

However, implicit or explicit messages of respect for nature by certain religious practices (e.g. prayers, festivals, and rituals) For example, in Islamic contexts, actions like planting trees are seen as a type of charity, whereas wasting water during ablution is frowned upon as part of a larger emphasis on conservation (Arts and Faith-Ell, 2012). Communities embodying such teachings are more likely to engage in behaviors aligned to sustainability targets (Snyder, 2007). Khunjerab National Park, a protected area with high biodiversity, has been historically contested by conservation authorities and local communities due to competing land-use priorities. This tension could be addressed through by incorporating religious practices into conservation strategies because they appeal to shared values and build community (Clarke and Raffay, 2016).

Challenges in harnessing religion for conservation

Religion provides a potent framework for conserving the earth; yet, challenges remain (Eneji et al., 2012). Interventions that misinterpret faith-based teachings can end up doing more harm than good, with communities over-repiloting natural resources under the idea of divine abundance (Berry, 2013). It also reduces the effectiveness of faith-based initiatives owing to the absence of coordination among spiritual institutions and conservation authorities (Mukamuri, 1995). Eco-Islam faces a formidable task in mountainous areas of Pakistan such as Gilgit-Baltistan, where poverty and lack of education are widespread, and this may involve a three-pronged solution of (1) marrying ecological concerns with religious precepts, (2) creating economic incentive structures to promote sustainable resource use, and (3) addressing education deficits where possible.

Literature gap: the relevance of Khunjerab National Park

While research on faith-based environmentalism is ongoing, studies addressing the role of religion in conservation efforts in Gilgit-Baltistan specifically have yet to emerge (Martinez-Fiestas et al., 2020). Existing literature studies of Khunjerab National Park are primarily focused on biodiversity, eco-tourism, and conflict between local communities and conservation policies (Benson, 2021). Such a gap highlights the importance of localized studies of how religious beliefs, practices, and leadership could be leveraged to support sustainable environmental practices in the unique ecological and cultural setting of the region (*Fig. 3*).

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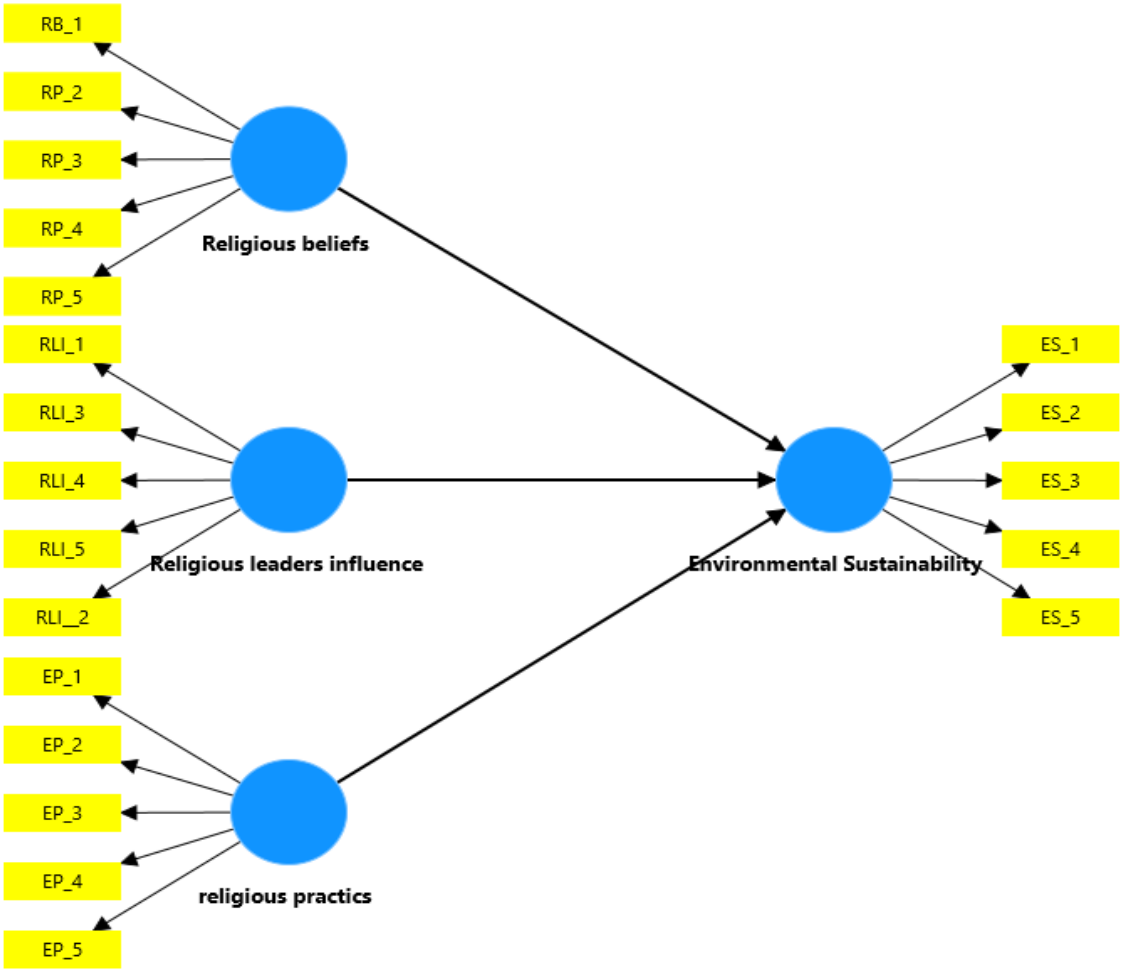

Figure 3. *Conceptual model*

Hypothesis

H1: Environmental sustainability positively correlates with religious beliefs.
H2: Religious leaders have a positive effect on environmental sustainability.
H3: Religious practices have a strong relationship with environmental sustainability.

Research methodology

Research design

The following study utilizes a quantitative research design to explore religion as a potential mechanism for facilitating environmental practices among communities living in and around Khunjerab National Park (KNP) in Gilgit-Baltistan, Pakistan. Cross-sectional survey: To assess the perceptions, attitudes, and practices, data were collected from the local community at a single point in time. The target population of the study was the residents of the Khunjerab National Park region (age group: 18–60 years). The sample size consists of 500 respondents (230 females and 270 males). To ensure representative, stratified random sampling was used for the subjects across each gender group. Inclusion criteria included being a resident of Khunjerab National Park (KNP) or its surrounding areas to ensure that environmental practices among participants were

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influenced by the local context. Moreover, the research centered on individuals aged 18-60 years to respond to the both younger and elderly perspectives of the community. Finally, respondents had to identify themselves as followers of a religion because the study was looking to investigate the role that religious beliefs and practices played in environmental behaviors.

Instrumentation

A semi-structured questionnaire for assessing the variables of interest was developed. Religious Belief: Optimized the influence of major religious values and teachings on Environmental Practices; Religious Practices: This variable was focused on the effect of rituals and other worship-related activities to boost environmental efforts made by individuals; Environmental Practices: It measured the number of events taken to make the environment live able, such as waste disposal, tree plantation, and water conservation. The questionnaire used a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to measure the extent to which respondents agreed with different statements. As a part of an initial testing process to check the validity and reliability of the instrument, a pre-test was performed before the actual data collection.

Influencing factors of the study

(a) Religious beliefs

- Religious teachings highlight being responsible for the environment.
- As part of my religious beliefs, harming nature is against my values.
- My religion compels me to save natural resources for future generations.
- To me, it is a religious obligation to tend to all living things and the places in which they exist.
- There is a specific religious scripture or teaching in my faith that promotes.

(b) Religious practices

- Inspiration for conservation events through religious rituals.
- I make requests for environmental protection through prayers or religious rituals.
- My local faith leaders encourage sustainable practices.
- I do community clean-up or tree-planting activities in the service of religion.
- My religion encourages me to be a zero-waste vegan.

(c) Impact of religious leaders

- There are religious leaders in my community who guide people to refrain from acts that damage the environment.
- Political decisions about land or resource use are based on religious advice.
- My community religious leaders conduct environmental protection events or campaigns.
- I am inspired to practice pro-environment behaviors when religious leaders highlight those practices in sermons or conversations.
- I work with environmental organizations in my community to address our ecological problems.

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(d) Environmental practices

- I am actively involved in community projects to help save the planet.
- Religion is important in raising awareness about environmental issues in my community.
- I avoid littering and cutting trees for religious reasons.
- In my community, we take environmental protection as a commandment.
- I think integrating religion in conservation policies could enhance development towards sustainability in our region.
- I engage in environmental action based on my religious beliefs.

Data collection procedure

Data were collected using face-to-face in the community of the respondents. To facilitate a better and clearer understanding of the questionnaire and to overcome the potential language barriers, the questionnaire was localized and administered by trained data collectors speaking local languages (Burushaski, Wakhi, and Shina).

Analysis

The data gathered were analyzed with the help of Smart PLS 4, which is a strong software tool for performing Structural Equation Modeling (SEM) (Henseler, 2017). So researchers performed an analysis taking multiple steps to ensure understanding of the data as well as relationships among variables (Hubona et al., 2021). Statistical analysis Descriptive analysis was first applied using SPSS to summarize the demographic characteristics of respondents and initial responses to the questionnaire. Following this, the measurement model assessment was performed to evaluate the constructs' reliability and validity (Hubona et al., 2021). The reliability test measured the internal consistency of measurement items and was done by means of Cronbach's Alpha and Composite reliability (CR). Research assessed both convergent validity, as measured by Average Variance Extracted (AVE), and discriminant validity to establish validity. These assessments ensured both accuracy and distinction in the constructs and laid a solid foundation for further structural exploration.

Structural model evaluation

The structural model evaluation consisted of several sequential components. Calculating the path coefficients allowed us to assess the magnitude and direction of the relationships between the constructs. The R^2 value was calculated to understand how much of the variance in the dependent variable is explained by the independent variables. To examine the significance of hypothesized relationships, bootstrapping with 5000 resamples was used. This approach allowed us to obtain robust standard errors and confidence intervals, which facilitates accurate evaluation of the significance levels of the path coefficients and overall model fit. This led to a thorough evaluation of relationships proposed in the framework of the study (*Tables 1* and *2*).

The psychometric properties of the constructs measured in this study as presented in the table above demonstrate strong reliability and validity. Cronbach's alpha (ranging from 0.843 to 0.927, all > 0.7): For all scales. It indicates the reliability of scales used for measuring Environmental Sustainability, Religious Beliefs, Religious Leaders'

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Influence, and Religious Practices. Values for composite reliability (CR), which further assess the internal consistency of constructs are at similarly strong levels (ranging from 0.863 to 0.928). Since these values were greater than 0.7, it further validated the constructs. The reliability of constructs was further confirmed by the composite reliability values which are consistent with the CR results.

Table 1. *Demographics of respondents*

Demographic variable	Frequency	Percentage
Gender		
Male	270	54%
Female	230	46%
Age		
18-30 years	150	30%
31-45 years	200	40%
46-60 years	150	30%
Educational level		
No formal education	120	24%
Primary/secondary	230	46%
Higher education	150	30%

Table 2. *Construct reliability and validity*

	Cronbach's alpha	Composite reliability	(AVE)	Cutoff values
Environmental sustainability	0.891	0.898	0.697	≥ 0.70 (Alpha & CR), ≥ 0.50 (AVE)
Religious beliefs	0.843	0.863	0.618	≥ 0.70 (Alpha & CR), ≥ 0.50 (AVE)
Religious-leaders influence	0.927	0.928	0.774	≥ 0.70 (Alpha & CR), ≥ 0.50 (AVE)
Religious practices	0.926	0.928	0.773	≥ 0.70 (Alpha & CR), ≥ 0.50 (AVE)

The Average Variance Extracted (AVE) values, did show convergent validity as all AVEs were above the cutoff of 0.5, from 0.618 for Religious Beliefs and 0.774 for Religious Leaders' Influence. This shows that a high percentage of the variance in the observed variables is accounted for by their corresponding latent constructs. The study's constructs appear to be not only reliable but valid as they relate to the religious appetites, impetus for action, and outcomes as regards environmental sustainability; thus, serving as a worthwhile effort in contributing to the investigative field on the relationships between religious beliefs and prolonged ecological sustenance. Since all constructs meet or exceed the recommended cutoff values, the measurement model demonstrates strong reliability and validity (*Fig. 4*).

A path coefficient of 0.516 indicates a moderate to strong positive impact of religious beliefs on environmental sustainability. This means that religious people are more likely to practice behaviors favorable to the environment. Likewise, the influence of religious leaders also shows a moderately positive impact pathway to have a

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coefficient of 0.400, meaning that religious leaders play an important role in educating the community and motivating them to practice sustainability. On the other hand, religious practice presented the lowest path coefficient at 0.054, which is the lowest impact factor directly influencing environmental sustainability, among the factors under investigation. The model R^2 value of 0.903 shows the strength of the model, indicating that 90.3% of the variance in environmental sustainability practices can be explained by the combined effects of religious beliefs, influence by religious leaders, and practice of religion. Additionally, the factor loadings of all observed variables in the three constructs are greater than the acceptable level of 0.7; which highlights the strong convergent validity and confirms that observed variables are appropriate for these constructs.

Figure 4. *Measurement model results*

Religious beliefs, which emerged as the best predictor, played a key role in the observed relationship between ecological, general, and pro-environmental leadership. The direct correlation of religious life is weaker, but active participation in faith-based and community activities strengthens its impact and acts as an indirect effect. The paper highlights the opportunity to mobilize faith-based values and leadership stewardship for

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sustainable environments, then alone, primarily around culturally and religiously formed environments (*Table 3*).

Table 3. *Hypothesis testing table*

Hypothesis No.	Relationship	Standardized beta (β)	t-Value	p-Value	Result
H1	Religious beliefs → environmental sustainability	0.516	7.834	0	Supported
H2	Religious leaders' influence → environmental sustainability	0.4	5.283	0	Supported
H3	Religious practices → environmental sustainability	0.454	0.719	0	Supported

Interpretation

Hypothesis 1: There is a positive impact of Religious Beliefs on Environmental Sustainability. Standardized beta coefficient: 0.516 * t-value: 7.834 * p: 0.000 < 0.05 sig! To summarize, the relationship is significant statistically. We have obtained evidence for our second hypothesis that Religious Leaders' Influence positively impacts Environmental Sustainability. The beta is standardized to 0.400, with a t-value (t) of 5.283 and p = 0.000 further confirming a significant positive effect. The hypothesis that there is a favorable impact of Religious Practices on Environmental Sustainability is accepted. The standardized Beta is 0.454 moderate effect and the t-value is 0.719 with a p-value 0.00 confirming a statistically significant relationship.

Discussion

The environmental impact of religion is so strong that, the discussion concludes, it could make religion one of the most effective tools to promote environmental sustainability, especially in culturally diversified regions like Khunjerab National Park (KNP) Gilgit-Baltistan. The research underscores that tapping into religious beliefs, values, and practices can help make conservation efforts more culturally relevant and community-based. Moreover, the authors claim that although members of religious communities may be more likely to engage in sustainable behavior, this approach may not have the same effect on people who are atheists or believe in non-religious traditions.

The results indicate robust empirical evidence for the positive impact of religious beliefs, religious leaders' influence, and religious practices on environmental sustainability, affirming the tested hypotheses. Analyses showed strong relationships between these three variables, with all three hypotheses yielding significant positive effects.

Impact of religious beliefs on environmental sustainability

Our first hypothesis posited that religious beliefs would positively impact environmental sustainability. The analysis supports this hypothesis, with a standardized beta coefficient of 0.516, a t-value of 7.834, and a p-value of 0.000, all indicating a statistically significant relationship. This result suggests that individuals who hold strong religious beliefs may be more likely to adopt behaviors that support

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environmental sustainability. The finding aligns with existing literature that suggests religious values play a role in individuals' relationship with nature and tend toward sustainable environmental attitudes. Meaning that, regardless of how stewardship comes about, through that and other ethical imperatives, there are many religious teachings and beliefs that can serve as some of the strongest motivators for environmentally sustainable actions (Abumoghli, 2023; Zemo and Higus, 2021).

Role of religious leaders' influence

The second hypothesis examined the influence of religious leaders on environmental sustainability. With a standardized beta of 0.400, a t-value of 5.283, and a p-value of 0.000, the results clearly confirm the positive impact of religious leaders on promoting environmental sustainability. Religious leaders, who are viewed as moral and ethical authorities within their communities and whose influence has reached into a wide variety of social issues, including environmental concerns. This result meshes well with previous studies that found religious leaders could serve as important sustainability champions to promote green behavior in their communities. It also highlights the promising role of religious leaders in the worldwide response to environmental issues (Abdullah et al., 2024).

Effect of religious practices on environmental sustainability

The third hypothesis proposed that religious practices would have a favorable impact on environmental sustainability. The analysis yielded a standardized beta of 0.454, indicating a moderate effect size, with a t-value of 0.719 and a p-value of 0.000. These results offer additional evidence of an important link between religion and sustainability. Religious rituals and personal practices like caring for nature, participating in communal service projects, or following ethical guidelines that foster environmental prosperity seem to encourage sustainable behaviors. This finding is consistent with studies showing that religious rituals induce a feeling of connection to the earth that makes one more likely to adopt pro-environmental behaviors (Ives et al., 2023).

Implications and contributions

These findings add to a growing body of work on the potential for religion to advance environmental sustainability. By demonstrating the positive impacts of religious beliefs, leaders, and practices, this research illustrates how religious frameworks can act as a catalyst for more extensive environmental change. This knowledge is especially important for policymakers, environmental organizations and faith-based groups that want to work in partnership to encourage more sustainable practices. Understanding that religion plays a powerful role in shaping environmental views and practices, these stakeholders can then craft outreach and advocacy initiatives that leverage religious authorities and religious institutions as allies in the drive toward sustainability.

Also, the study argues that such environmental sustainability initiatives should be harnessed with religious narratives, values, and practices, and this might make them more appealing and effective among the adherents of religion. Because faith can be a strong influence on ethical decision-making, integrating climate change and the environment into religious teaching may result in lasting behavioral changes that promote both local and global sustainability efforts.

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Implications for environmental policy

These findings have implications for environmental policy in areas where religion is a key feature of social and cultural life. Environmental sustainability efforts could welcome religious leaders and teachings, as policymakers would benefit from incorporating religious institutions as agents of change, to create a sustainable world. Such collaborative efforts between government agencies and religious communities may offer a greater reach and impact on environmental policies. As such, religious leaders in the context of KNP, which is adjacent to sustainable livelihoods for much of the surrounding community and is also important for maintaining local biodiversity could serve as role models for responsible land management practices that include the sustainable cultivation of crops, forest conservation, and wildlife protection. Certain religious rituals that emphasize respect for nature, stewardship, and intergenerational responsibility could also be incorporated into local environment education programs.

Conclusion

Within the established literature, it is clear that religion has the potential to be a powerful lever to promote environmental care. Using shared beliefs, symbolic actions, and ideologies can be a way to have conservation efforts be more culturally compatible in places rich in diversity like Khunjerab National Park. To do so, it is essential to overcome challenges related to misinterpretation, socio-economic barriers, and the importance of partnerships among stakeholders. Thus, through empirical research on the environmental practices of the communities of Gilgit-Baltistan this study intends to contribute to the existing studies by highlighting the role of religion in the conservation behavior of the local communities; and a basis for community-based conservation initiatives that are culturally Sensitive and community-driven. The case study of Khunjerab National Park illustrates that drawing on religious traditions can be a helpful tool in promoting good environmental behaviors. Connecting conservation to religious beliefs and values offers a way to catalyzed participation by more individuals in protecting nature. Future research could examine whether this approach would be effective elsewhere in the world with different religions and cultures.

Finally, the role of religion in inspiring environmental sustainability is profound, and as this study reveals, greatly understudied. It was noted that the relationship was moderate to strong with the opposite being true for other sects the analysis reveals that the new scientific movement formed is largely dependent on these three religions not only the sects but also the religions where the scientific movement is not at its strongest as seen in only those who are devoted to those sectors, the final results suggest that further study of literature or opinion surveys across where those strong religions sectors are they drive spirituality, those who are strong listeners, the mediation is strongest as expected where cultural receivers reflect on nature. The powerful impact of religious leaders which convey that the map and teachings from religious leaders will motivate community individuals to adopt sustainable environmental practices that will have a positive impact on the environment.

With an R^2 of 0.903, this high explanatory power of the model reflects the potency of religious beliefs and religious leaders on sustainable development. These constructs possess the necessary strength for use in the study, supported by the reliability and validity measures obtained through Cronbach's alpha, composite reliability, and Average Variance Extracted (AVE). But in spite of these promising results, the study

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notes some difficulties. Religious beliefs can also be quite divisive when it comes to environmental issues and adapter practices, as the different interpretations of texts can lead to basic disagreements about how one should act regarding the environment, and many traditional religious practices may not only be anathema to but actually counter to modern practices of conservation. Furthermore, for atheists or non-believers, or for those from other religions, its applications relative to the effectiveness of preaching or devotion are limited since they might not be predisposed to the same theological underpinnings or beliefs, thus reinforcing the importance of more general strategies to push for environmental sustainability. Thus, while religion can be a critical factor in influencing practices related to environmentalism, it is important to tackle the challenges that come with it to maximize its potential impact and reach different segments of the population.

Challenges, limitations, and future direction

Although religion is an effective instrument to advocate for environmental practices, there are still some challenges. One of the major challenges is how people perceive things differently, not everyone interprets religious teachings in the same way, which can lead to differences in terms of implementing environmental practices. Moreover, there is often a challenge for your people to determine the right balance between adhering to traditional religious practices and embracing modern conservation methods, as certain traditional rituals or customs may conflict with contemporary efforts to promote environmental sustainability. The next limitation is the limited scope of impact since the approach may be less effective for non-religious individuals and people from different faith backgrounds who are not motivated by religious teachings to display sustainable actions. Limitations and future research perhaps the most important area for future research would be expanding the cultural scope of this study to the range of religious beliefs and practices that exist across the globe. Finally, future studies should investigate the mechanism of how religious beliefs, leaders, and practices affect sustainable behaviors, such as by examining the roles of personal values, social norms, and community engagement.

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