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***KHASYĀ* AS MEDIATOR IN EQUITABLE AND DRIVE FOR WATER GOVERNANCE MODELS IN RURAL COMMUNITIES**

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Abstract

This study examines the role of *khasyā* as a mediating mechanism linking Islamic ethical values to the intention to support equitable and sustainable water governance in rural Muslim communities. Grounded in Islamic Environmental Ethics Theory and Islamic Leadership Theory, the study investigates the relationships among simplicity, environmental awareness, justice-oriented leadership, *khasyā*, and the Drive for Water Governance. A quantitative cross-sectional survey was conducted among 151 rural Muslim residents in South Sulawesi, Indonesia, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The findings indicate that *khasyā* has a strong positive effect on the Drive for Water Governance ($\beta = 0.812$, $p < 0.001$). Environmental awareness ($\beta = 0.342$, $p < 0.001$) and justice-oriented leadership ($\beta = 0.537$, $p < 0.001$) significantly strengthen *khasyā*, with justice-oriented leadership demonstrating the greater contribution. Simplicity significantly influences environmental awareness ($\beta = 0.706$, $p < 0.001$) and justice-oriented leadership ($\beta = 0.707$, $p < 0.001$), but its effect on *khasyā* is fully mediated through these two constructs. Indirect effect analysis further confirms that *khasyā* significantly mediates the relationships between environmental awareness and water governance ($\beta = 0.277$, $p < 0.001$) as well as justice-oriented leadership and water governance ($\beta = 0.436$, $p < 0.001$). These findings demonstrate that spiritual consciousness serves as a critical pathway through which Islamic ethical values are translated into governance-related behavioral intentions, highlighting the importance of integrating spiritual, ethical, and leadership dimensions into sustainable water governance frameworks.

Keywords: *Khasyā; Amānah-Based Governance; Islamic Leadership*

A. INTRODUCTION

Contemporary environmental challenges, particularly increasing pressure on water resources, have intensified the need for equitable and Drive for Water Governance. In many

rural communities, unequal water distribution, water scarcity, and environmental degradation continue to threaten social welfare and ecological balance. Within the Islamic perspective, water is regarded not merely as an

economic resource but also as a collective trust (amānah) that must be managed responsibly and fairly¹. The principle of justice in water governance emphasizes equal access to clean water and the protection of vulnerable communities from inequality and environmental exploitation². Furthermore, Islamic civilization historically developed accountable systems of water management through irrigation networks, reservoirs, and communal water infrastructures that supported sustainability and social welfare³.

One spiritual value closely associated with ethical responsibility is khasyā, understood as a reverent fear and consciousness of Allah that encourages moral restraint and accountability. In the context of water governance, khasyā may motivate individuals and communities to avoid excessive exploitation, preserve ecological balance, and ensure fair access to water resources. Historical studies on Islamic water governance demonstrate that environmental management in Islamic societies was closely linked to ethical and spiritual responsibility⁴. Consequently, khasyā can be understood not merely as personal piety but also as an ethical foundation for collective environmental stewardship rooted in

Islamic teachings and civilizational heritage⁵.

Previous studies on khasyā have primarily focused on Islamic business ethics, moral development, and workplace spirituality. Izza et al. highlighted the role of Islamic spiritual values in fostering moral intelligence and character development⁶. Similarly, Boudlaie et al. demonstrated that spirituality and humility in Islamic leadership significantly influence followers' moral behavior and workplace ethics⁷. However, its role in environmental governance, particularly as a mechanism linking Islamic ethical awareness to equitable and Drive for Water Governance, remains largely unexplored. Consequently, the relationship between khasyā and sustainable water management in rural Muslim communities has yet to be empirically investigated.

To address these gaps, this study offers several novel contributions. First, it extends the concept of khasyā beyond the domains of personal piety and organizational ethics by positioning it within the field of environmental governance. Second, this study conceptualizes khasyā as a mediating construct that explains how Islamic ethical awareness and leadership values are translated into equitable and Drive

¹ Kerry Lee Neal, "The Path to the Water: Developing Islamic Theories of Transboundary Aquifer Governance" (University of York, 2021).

² Manuel Prieto, "Equity vs. Efficiency and the Human Right to Water," *Water* 13, no. 3 (2021): 278.

³ Masoud Saatsaz and Abolfazl Rezaei, "The Technology, Management, and Culture of Water in Ancient Iran from Prehistoric Times to the Islamic Golden Age," *Humanities and Social Sciences Communications* 10, no. 1 (2023): 1–22.

⁴ Louise Rayne, "Early Islamic Water Management in Northern Mesopotamia," 2020.

⁵ Neal, "The Path to the Water: Developing Islamic Theories of Transboundary Aquifer Governance."

⁶ Yogi Prana Izza et al., "Development of Children's Moral Intelligence According to Al-Ghozali," *Al-Hayat: Journal of Islamic Education* 8, no. 2 (2024): 572–84.

⁷ Hasan Boudlaie et al., "Investigating the Effect of Humility of Muslim Leaders on the Moral Behaviours of Followers and Spirituality at Work in Islamic Society," *HTS Teologiese Studies / Theological Studies* 78, no. 1 (2022): 1–6, <https://doi.org/10.4102/hts.v78i1.7833>.

for Water Governance practices. Third, the study integrates Islamic Environmental Ethics Theory and Islamic Leadership Theory into a unified analytical framework for examining water governance among rural Muslim communities. Finally, this research contributes to the development of a faith-based environmental governance model grounded in the principles of maqāṣid al-sharī‘ah, thereby providing a new theoretical perspective for understanding sustainability and justice in water resource management.

This study aims to develop and empirically test a comprehensive model of Drive for Water Governance in rural Muslim communities by integrating environmental awareness, simplicity, justice-oriented leadership, and *khasyā* as a mediating construct. Specifically, this study seeks to examine the direct and indirect relationships among these variables and to assess the mediating role of *khasyā*, environmental awareness, and justice-oriented leadership in shaping sustainable and equitable water governance outcomes.

1. Literature Review

Khasyā cultivates moral consciousness to preserve water resources in accordance with the Qur’anic principles of justice (*‘adl*) and balance (*mīzān*)⁸. This ethical approach argues that water crises demand not only technical solutions but also strong

spiritual and moral foundations⁹. The latter theory positions *khasyā* as an ethical basis for leadership, encouraging accountability, transparency, and the prioritization of collective welfare in water management¹⁰. Leaders guided by *khasyā* are more likely to avoid exploitation and implement policies that serve long-term ecological and social interests. The integration of both theories highlights *khasyā* as a vital ethical-spiritual drive of Islamic water governance¹¹.

1.1 *Khasyā* and the Drivers for Water Governance

Khasyā, as a deep sense of reverence and fear of God, serves as a foundational moral force in Islamic water governance. It fosters ethical awareness that guides individuals and leaders to manage water justly and sustainably¹². By promoting accountability, discouraging exploitation, and encouraging long-term responsibility, *khasyā* supports equitable access and environmental preservation¹³. Its absence, however, risks mismanagement, injustice, and ecological harm, underscoring its central role in advancing sustainable water systems.

H1: *Khasyā* has a positive effect on the drivers for water governance.

1.2 Environmental Awareness and *Khasyā*

Environmental awareness and *khasyā* are interconnected within Islamic

⁸ Al-Hasan Al-Aidaros, Faridahwati Mohd Shamsudin, and Kamil Md Idris, “Ethics and Ethical Theories from an Islamic Perspective,” *International Journal of Islamic Thought* 4 (2013): 1–13.

⁹ Fazlun M Khalid, “Islam and the Environment,” *Encyclopedia of Global Environmental Change* 5, no. 1 (2002): 332–39.

¹⁰ Rafik I Beekun and Jamal A Badawi, “Balancing Ethical Responsibility among Multiple Organizational Stakeholders: The

Islamic Perspective,” *Journal of Business Ethics* 60, no. 2 (2005): 131–45.

¹¹ Dina M Abdelzaher, Amr Kotb, and Akrum Helfaya, “Eco-Islam: Beyond the Principles of Why and What, and into the Principles of How,” *Journal of Business Ethics* 155, no. 3 (2019): 623–43.

¹² Seyyed Hossein Nasr, *Religion and the Order of Nature* (Oxford University Press, USA, 1996).

¹³ Muhammad Yaseen Gada, *Islam and Environmental Ethics* (Cambridge University Press, 2024).

ecological ethics. While environmental awareness represents a cognitive and behavioral commitment to ecological balance, *khasyā* provides the spiritual and moral motivation to act responsibly. Those with strong *khasyā* view environmental protection as a divine trust (*amānah*) and religious duty, reflecting the Qur'anic principle of stewardship (*khilāfah*) and balance (*mīzān*)¹⁴. Without *khasyā*, environmental concern risks becoming shallow and driven by self-interest, lacking the ethical and theological depth required for long-term sustainability¹⁵.

H2: Environmental awareness has a positive effect on *Khasyā*.

1.3 Justice Leadership and *Khasyā*

Justice leadership grounded in *khasyā* a deep reverence and fear of God cultivates moral integrity, humility, and a commitment to public welfare. This spiritual foundation guards against corruption and fosters transparency and accountability, particularly in water governance¹⁶. Leaders driven by *khasyā* prioritize divine responsibility over political or economic gain, ensuring equitable access and environmental sustainability¹⁷. Without *khasyā*, leadership risks authoritarianism and the erosion of water justice. Therefore, integrating spirituality into leadership is

essential for achieving lasting social justice and sustainable governance.

H3: Justice leadership has a positive effect on *Khasyā*.

1.4 Simplicity and Environmental Awareness

Simplicity, as a principle of moderation in consumption, is a core tenet of Islamic ecological ethics¹⁸. It nurtures spiritual and environmental consciousness by encouraging restraint based on genuine needs. Individuals who embody simplicity are more mindful of their ecological impact and more committed to sustainable resource use, especially water¹⁹. Viewed as a divine trust (*amānah*), simplicity reflects moral responsibility toward the Earth. Without it, consumerism and materialism thrive, leading to resource depletion and social inequality²⁰. Thus, simplicity is not just a personal virtue but a necessary framework for achieving sustainability and ecological justice.

H4: Simplicity has a positive effect on environmental awareness.

1.5 Simplicity and Justice Leadership

Simplicity is a foundational value in shaping ethical leadership committed to social justice²¹. It nurtures humility, empathy, and attentiveness to communal needs, guiding leaders to reject extravagance and power displays. In

¹⁴ Illyani Ibrahim et al., "Environmental Conservation In Islamic Perspective: A Systematic Review," *Quantum Journal of Social Sciences and Humanities* 5, no. 6 (2024): 146–58.

¹⁵ Suud Sarim Karimullah, "Humanitarian Ecology in Islamic Law: Balancing Human Needs and Environmental Preservation in Islamic Law," *Asy-Syari'ah* 26, no. 2 (2024): 113–36.

¹⁶ Kathleen Shordt et al., "About Corruption and Transparency in the Water and Sanitation Sector," *International Water and Sanitation Centre (IRC), Thematic Overview Paper* 16 (2006): 1–39.

¹⁷ Al-Aidaros, Mohd Shamsudin, and Md Idris, "Ethics and Ethical Theories from an Islamic Perspective."

¹⁸ Abdelzaher, Kotb, and Helfaya, "Eco-Islam: Beyond the Principles of Why and What, and into the Principles of How."

¹⁹ Joshua Colt Gambrel and Philip Cafaro, "The Virtue of Simplicity," *Journal of Agricultural and Environmental Ethics* 23, no. 1 (2010): 85–108.

²⁰ Duta Amrilah, "Consumerism and Materialism Culture: Its Impact on Society and the Environment" (OSF, 2024).

²¹ Charoula Lapatoura, "The Role of Leadership in Shaping Ethical Culture and Practices of Excellence: A System Thinking Approach," 2025.

water governance, simplicity fosters equitable, transparent, and welfare-oriented distribution, ensuring fair access for marginalized groups. Leaders grounded in simplicity resist elite monopolies and prioritize the public good (al-maṣlaḥah al-‘āmmah). Without this value, leadership risks becoming self-serving and unjust²². Thus, simplicity must be embedded as a core ethical principle for inclusive and sustainable justice-oriented leadership. H5: Simplicity has a positive effect on justice leadership.

1.6 *Khasyā* as a Mediator

Khasyā, defined as a profound reverence and fear of God, serves as a key mediating construct that integrates environmental awareness, simplicity, and justice-based leadership into the drivers for water governance. This spiritual force is not merely internal but transforms moral consciousness into concrete ethical action²³. *Khasyā* reinforces self-restraint in water use and prevents the misuse of resources under the pretense of efficiency or profit. In this framework, water governance is more than a technical operation—it becomes a form of worship and spiritual duty. Individuals and leaders who internalize *khasyā* view water as a divine trust (amānah) to be preserved, not exploited²⁴. This orientation fosters sustainability, justice, and

intergenerational equity. In contrast, the absence of *khasyā* can weaken ethical values and expose water management to short-term, self-serving interests²⁵. Therefore, *khasyā* functions as a spiritual foundation guiding humanity toward justice and ecological responsibility.

H6: *Khasyā* mediates the relationship between:

6a: Environmental awareness and the drivers for water governance

6b: Justice leadership and the drivers for water governance

1.7 Environmental Awareness as a Mediator

Environmental awareness serves as a key mediator between simplicity and effective water governance. While simplicity promotes restraint and ecological sensitivity, it requires environmental awareness to transform these values into concrete, sustainable actions. This awareness enhances individual and collective engagement in responsible water use, fosters participatory governance, and supports fair distribution. Without it, the ethical intent of simplicity may not translate into meaningful environmental outcomes²⁶. Thus, ethically grounded ecological consciousness is essential for linking

²² Melissa J Williams, “Serving the Self from the Seat of Power: Goals and Threats Predict Leaders’ Self-Interested Behavior,” *Journal of Management* 40, no. 5 (2014): 1365–95.

²³ Ananta Kumar Giri, “Moral Consciousness and Communicative Action: From Discourse Ethics to Spiritual Transformations,” in *Beyond Sociology: Trans-Civilizational Dialogues and Planetary Conversations* (Springer, 2017), 93–121.

²⁴ Lisa A. Blankinship et al., “‘... And We Have Made from Water Every Living Thing’: Water Conservation and the Holy Qur’an,” *Environmental Conservation* 51, no. 2 (2024): 79–84,

<https://doi.org/10.1017/S037689292300036X>.

²⁵ Ahmad Zuhdi, M Agus Muhtadi Bilhaq, and Lusiana Rahmadani Putri, “Islamic Philosophy’s Approach to Environmental Ethics: An Analysis of the Teachings of the Qur’an and Hadith,” *Journal of Noesantara Islamic Studies* 1, no. 4 (2024): 180–93.

²⁶ Charlotte Van Haren et al., “The Role of Spatialisation and Spatial Planning in Improving Food Systems: Insights from the Fast-Growing City of Dhaka, Bangladesh,” *Sustainability (Switzerland)* 15, no. 4 (2023), <https://doi.org/10.3390/su15043423>.

simple living to impactful water governance practice²⁷.

H7: Environmental awareness mediates the relationship between simplicity and the drivers for water governance.

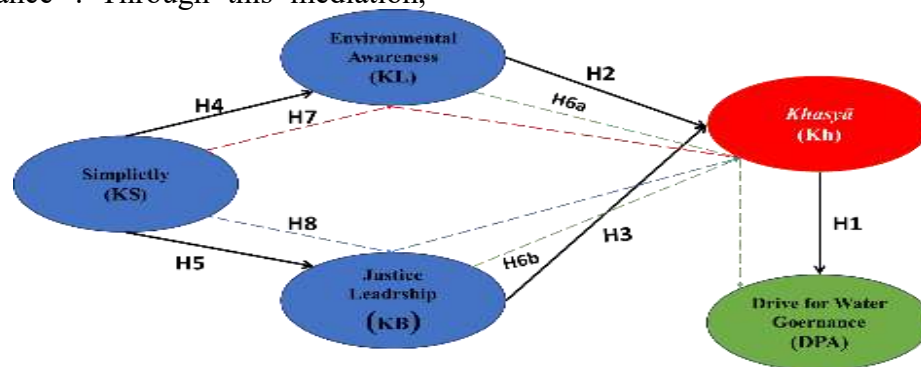
1.8 Justice Leadership as a Mediator

Justice leadership acts as a vital mediator between simplicity and effective water governance. Rooted in moral and spiritual values, simplicity shapes leaders who are humble, just, and committed to the public good. These leaders prioritize fair water distribution, protect marginalized groups, and promote inclusive, accountable governance²⁸. Through this mediation,

leadership becomes a transformative force that integrates ethical and ecological principles into policy²⁹. Justice-oriented leadership, informed by simplicity, views water stewardship as a moral obligation, making it essential for achieving sustainable and socially just water governance.

H8: Justice leadership mediates the relationship between simplicity and the drivers for water governance.

Conceptual Model of Study



Picture 1. Conceptual Model of Study

This study presents a conceptual model (Figure 1) in which the Drive for Water Governance (DPA) is influenced by *Khasyā* (Kh), a spiritual construct representing fear and reverence toward God. *Khasyā* is shaped by environmental awareness (KL), simplicity (KS), and justice-oriented leadership (KB). *Khasyā* mediates the relationship between these three values and DPA, while KS also influences KL and KB, which in turn reinforce Kh. The model emphasizes that

responsible water governance emerges from the integration of spiritual, ethical, and ecological values, all internalized through the moral force of *Khasyā*.

Research Design dan Measurement

The designed questionnaire for validating the conceptual model of study is divided into two main sections. The first section provides a brief overview of the study's purpose, gives instructions for completing the questionnaire, and collects socio-demographic information

²⁷ Abdelzaher, Kotb, and Helfaya, "Eco-Islam: Beyond the Principles of Why and What, and into the Principles of How."

²⁸ Eddy S W Ng and Ronald J Burke, "The next Generation at Work—Business Students' Views, Values and Job Search Strategy: Implications for Universities and Employers," *Education+ Training* 48, no. 7 (2006): 478–92.

²⁹ Abida Begum et al., "Impact of Environmental Moral Education on Pro-Environmental Behaviour: Do Psychological Empowerment and Islamic Religiosity Matter?," *International Journal of Environmental Research and Public Health* 18, no. 4 (2021): 1604.

such as age, marital status, occupation, education, and income of the respondent. The second section, which is crucial for model development, employs a multiple-choice item scale using a five-point Likert Scale ranging from "Strongly Disagree" (1) to "Strongly Agree" (5). This section consists of a total of 15 questions, addressing various aspects: "Drive for Water Governance" (DPA) - 3 questions, "Khasyā" (Kh) - 3 questions, "Environmental Awareness" (KL) - 3 questions, Simplicity (KS) - 3 questions, and Justice-Oriented Leadership (KB) - 3 questions.

B. RESEARCH METHOD

This study employs a quantitative research design using a cross-sectional survey to examine the relationships among environmental awareness, simplicity, justice-oriented leadership, *khasyā*, and drivers of water governance in rural Muslim communities in South Sulawesi, Indonesia. Data were collected from rural Muslim residents in Kabupaten Bone between January and March 2025. Eligible respondents were aged at least 18 years, had lived in the community for at least 2 years, and had experience or knowledge related to local water use or management. The population consists of rural Muslim communities in South Sulawesi, while the sample was selected using a stratified cluster sampling technique across five districts (Tanete Riattang, Tanete Riattang Barat, Tanete Riattang Timur, Palakka, and Ulaweng), yielding 150 valid responses collected through structured questionnaires distributed via Google Forms and WhatsApp. The instrument comprised two sections: demographic information and measurement of five constructs (DPA, *khasyā*, environmental awareness, simplicity, and justice-oriented

leadership) using a 5-point Likert scale with 15 total items.

Sample size adequacy was determined using statistical power analysis and PLS-SEM guidelines, considering effect size ($f^2 = 0.15$), significance level ($\alpha = 0.05$), and statistical power (0.80). The model's maximum number of predictors is three, yielding a minimum requirement of approximately 77–92 observations. With 150 valid responses, this study exceeds the minimum threshold and is sufficient for SEM-PLS analysis, while the 10-times rule is used only as a supplementary reference.

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4.0.8.9 software. The analysis was performed in two stages. The first stage involved assessment of the measurement model (outer model), including convergent validity, discriminant validity, and reliability tests. Convergent validity was evaluated based on factor loadings (> 0.70), composite reliability (> 0.70), and average variance extracted (> 0.50). Discriminant validity was assessed using cross-loadings and the Fornell-Larcker criterion. Reliability was evaluated using Cronbach's alpha with a threshold value above 0.60.

The second stage involved structural model (inner model) evaluation to test the predictive relevance and strength of relationships among variables. The structural model was assessed using R-square values to determine the explanatory power of the model, with values of 0.75, 0.50, and 0.25 indicating strong, moderate, and weak predictive relevance, respectively. Effect size (f -square) was also evaluated to determine the magnitude of relationships between constructs, with values of 0.02, 0.15, and 0.35 indicating small, medium, and large

effects. Hypothesis testing was conducted using a significance level of 0.05 ($p < 0.05$) to determine the statistical significance of path coefficients.

This study adhered to standard ethical principles for human subject research. Participants were informed about the study's purpose, procedures, and voluntary nature, and informed consent was obtained prior to participation. Respondents could withdraw at any time without consequences. Confidentiality was ensured by collecting data anonymously and reporting results in aggregate form only. Ethical approval or institutional permission was obtained before data collection to ensure compliance with research ethics standards.

C. RESULT AND DISCUSSION

Demographic profile of the respondents

Table 1 indicates that respondents were predominantly female (75.5%) and mostly under 40 years old (93.4%), with senior high school as the dominant education level (77.5%). The occupational category "Others" (78.8%)

mainly consists of informal and household-based roles such as homemakers, daily laborers, small-scale traders, and family farming assistants who are directly involved in domestic water use and basic community-level water-related activities (e.g., fetching, storing, and managing household water needs). Only a small proportion were formally employed as teachers (4.0%), entrepreneurs (9.3%), civil servants (6.5%), farmers (0.7%), and military/police personnel (0.7%). The majority earned below IDR 5 million per month (86.1%), reflecting modest socioeconomic conditions. Rather than representing formal water authorities, the respondents primarily reflect everyday users and informal actors within household and community water practices, making their responses relevant for understanding lived experiences of water use and local-scale engagement in water management, without generalizing them as institutional decision-makers in rural water governance.

Table 1. Respondents' Characteristics

Criteria/Category	Frequency	Percentage (%)
Gender		
Female	114	75.5%
Male	37	24.5%
Age		
< 20 years	57	37.7%
21–30 years	69	45.7%
31–40 years	16	10.6%
41–50 years	9	6.0%
Educational Attainment		
High school (or equivalent)	117	77.5%
Diploma (II/III/IV)	5	3.3%
Bachelor's degree (S1)	25	16.6%
Master's degree (S2)	1	0.7%
Others	3	2.0%
Occupation		
Teacher/Lecturer	6	4.0%
Civil/Private Employee	10	6.5%

Military/Police	1	0.7%
Entrepreneur/Trader	14	9.3%
Farmer	1	0.7%
Others	119	78.8%
Monthly Income		
Below IDR 5 million	130	86.1%
IDR 5–7 million	15	9.9%
Above IDR 7–10 million	2	1.3%
Above IDR 10–15 million	3	2.0%
Above IDR 15 million	1	0.7%

Source: Processed primary data, 2025

Measurement model assessment

Table 2 indicates that most constructs satisfy the recommended validity and reliability criteria. However, the Simplicity construct exhibits relatively lower internal consistency, as reflected by Cronbach's Alpha (0.522) and rho_A (0.573), which are below the recommended threshold. This result may be associated with the exclusion of indicator Ks2 during the measurement refinement process, leaving the construct

represented by two indicators. Despite this limitation, the construct was retained because its Composite Reliability (0.802) and AVE (0.671) exceeded the recommended values, indicating acceptable convergent validity. Therefore, the Simplicity construct should be interpreted with caution, and future research is encouraged to further refine and expand its measurement indicators to strengthen reliability and construct coverage.

Table 2. Validity and Reliability Assessment

Variable	Cronbach's Alpha	Composite Reliability (rho a)	Composite Reliability (rho c)	AVE
Drive for Water Governance	0.883	0.903	0.928	0.811
Justice-Oriented Leadership	0.877	0.883	0.924	0.803
<i>Khasyā</i>	0.907	0.909	0.942	0.844
Environmental Awareness	0.772	0.795	0.867	0.685
Simplicity	0.522	0.573	0.802	0.671
Drive for Water Governance	0.883	0.903	0.928	0.811
Justice-Oriented Leadership	0.877	0.883	0.924	0.803

Source: Processed using SmartPLS 4, 2025

Table 3 indicates that all indicators meet the outer loading threshold (>0.70), confirming good convergent validity. The instruments were adapted from established literature and refined through a pilot test to ensure clarity and relevance to rural water governance. The simplicity construct was reduced from three to two items after Ks2 was removed due to low consistency, which improved

measurement quality while slightly reducing content coverage. Although Cronbach's Alpha (0.522) and rho_a (0.573) indicate weak internal consistency, composite reliability (0.802) and AVE (0.671) remain acceptable, suggesting the construct is still validly represented by the remaining indicators.

Table 3. Outer Loadings of Constructs

Indicator	Drive for Water Governance (DPA)	Justice-Based Leadership (Kb)	<i>Khasyā</i> (Kh)	Environmental Awareness (Kl)	Simplicity (Ks)
DPA1	0.924				
DPA2	0.839				
DPA3	0.935				
Kb1		0.843			
Kb2		0.929			
Kb3		0.914			
Kh1			0.925		
Kh2			0.942		
Kh3			0.889		
Kl1				0.830	
Kl2				0.765	
Kl3				0.885	
Ks1					0.890
Ks3					0.741

Source: Processed with *SmartPLS 4*, 2025.

Table 4 presents the Fornell–Larcker criterion results. The square root of the AVE for each construct exceeds its correlations with other constructs, indicating satisfactory discriminant validity. For example, the AVE square roots of DPA (0.901), *Khasyā* (0.919), and Justice-Oriented Leadership (0.896) are greater than their respective inter-

construct correlations. These findings suggest that each construct captures a distinct conceptual domain. However, additional assessments such as HTMT ratios, cross-loadings, and inner VIF values were not reported in the present study. Therefore, conclusions regarding multicollinearity cannot be drawn from the Fornell–Larcker criterion alone.

Table 4. Fornell–Larcker Discriminant Validity Assessment

Constructs	DPA	Kb	Kh	Kl	Ks
Drive for Water Governance (DPA)	0.901				
Justice-Based Leadership (Kb)	0.841	0.896			
<i>Khasyā</i> (Kh)	0.812	0.802	0.919		
Environmental Awareness (Kl)	0.768	0.774	0.757	0.828	
Simplicity (Ks)	0.674	0.707	0.651	0.706	0.819

Source: Processed using *SmartPLS 4*, 2025.

Table 5 shows that the model exhibits moderate explanatory power, with R^2 values ranging from 0.498 to 0.690. *Khasyā* demonstrates the highest explained variance ($R^2=0.690$), followed by Drive for Water Governance ($R^2=0.659$), Justice-Oriented Leadership

($R^2=0.500$), and Environmental Awareness ($R^2=0.498$). The small differences between R^2 and adjusted R^2 suggest stable estimates. Nevertheless, these values indicate explanatory power only and should not be interpreted as evidence of predictive accuracy or

overall theoretical validity. Further evaluation using Q^2 predictive relevance and PLSpredict would provide a more

comprehensive assessment of the model's predictive performance.

Table 5. R-Square and Adjusted R-Square

Variable	R-square	Adjusted R-square
Drive for Water Governance	0.659	0.657
Justice-Based Leadership	0.500	0.497
<i>Khasyā</i>	0.690	0.685
Environmental Awareness	0.498	0.495

Source: Processed with SmartPLS 4, 2025.

Table 6 shows that *Khasyā* has a very large effect on Drive for Water Governance ($f^2 = 1.936$). Simplicity also exerts very large effects on Justice-Oriented Leadership ($f^2 = 1.001$) and Environmental Awareness ($f^2 = 0.993$). Furthermore, Justice-Oriented Leadership has a large effect on *Khasyā*

($f^2 = 0.374$), while Environmental Awareness has a medium effect on *Khasyā* ($f^2 = 0.151$). These results reflect the magnitude of the relationships within the model and should be interpreted independently from statistical significance, which is evaluated through bootstrapping

Table 6. f-Square Values

Variable	DPA	Kb	Kh	Kl	Ks
Drive for Water Governance (DPA)					
Justice-based Leadership (Kb)			0.374		
<i>Khasyā</i> (Kh)	1.936				
Environmental Awareness (Kl)			0.151		
Simplicity (Ks)		1.001		0.993	

Source: Processed with SmartPLS 4, 2025.

Structural model assessment

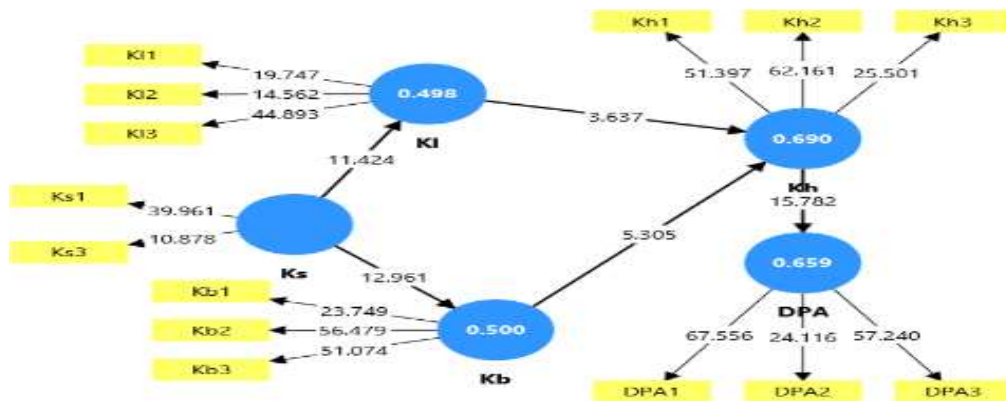
The results indicate that there is no direct effect of simplicity on *khasyā*. Instead, its influence is fully mediated through environmental awareness and justice-based leadership, confirming a full and serial mediation structure. Both

mediators significantly transmit the effect of simplicity to *khasyā*, which in turn strongly influences drive for water governance. Thus, *khasyā* serves as a central mechanism linking ethical antecedents to governance behavior.

Table 7. SEM-PLS: Direct Effects

Relationship of Variables	O	M	STDEV	T Statistics	P Values
<i>Khasyā</i> → Drive for Water Governance	0.812	0.806	0.051	15.782	0.001
Environmental Awareness → <i>Khasyā</i>	0.342	0.327	0.094	3.637	0.001
Justice-based Leadership → <i>Khasyā</i>	0.537	0.550	0.101	5.305	0.001
Simplicity → Environmental Awareness	0.706	0.710	0.062	11.424	0.001
Simplicity → Justice-based Leadership	0.707	0.706	0.055	12.961	0.001

Source: Processed with SmartPLS 4, 2025



Picture 2. Output of the structural model testing

Table 8 confirms the significant mediating role of *khasyā* in linking environmental awareness, simplicity, and justice-based leadership to the drive for water governance. The findings highlight *khasyā* as a key spiritual

mechanism through which ethical values are transformed into responsible environmental behavior, emphasizing the importance of integrating Islamic spiritual principles into sustainable and equitable water governance.

Table 8. SEM-PLS: Indirect Effects

Relationship of Variables	O	M	STDEV	T Statistics	P Values
Environmental Awareness → <i>Khasyā</i> → DPA	0.277	0.263	0.076	3.657	0.001
Justice-based Leadership → <i>Khasyā</i> → DPA	0.436	0.445	0.097	4.497	0.001
Simplicity → Environmental Awareness → <i>Khasyā</i>	0.241	0.233	0.074	3.274	0.001
Simplicity → Justice-based Leadership → <i>Khasyā</i>	0.380	0.388	0.079	4.817	0.001

Source: Processed with SmartPLS 4, 2025

This study conceptualizes individual-level perceptions as a valid proxy for examining water governance at the community level, despite governance being theoretically situated at the institutional domain. Grounded in the micro-foundation perspective, governance outcomes are understood as the aggregate result of individual cognition, interpretation, and behavioral responses, while environmental governance literature, the Theory of Planned Behavior (TPB), and social constructivist theory further emphasize that perceived governance conditions shape behavioral intentions, compliance, and collective action. Methodologically,

SEM-PLS research commonly employs perception-based individual data to approximate collective constructs, particularly when the focus is on behavioral intention rather than institutional performance. Accordingly, water governance in this study is operationalized as Perceived Water Governance Engagement Intention, capturing individuals' willingness and inclination to support and participate in sustainable water governance, thereby ensuring conceptual alignment between theory, measurement, and analysis while avoiding cross-level inference bias.

Discussion

The SEM-PLS results indicate that simplicity does not have a direct effect

on *khasyā*; instead, its influence is fully transmitted through environmental awareness and justice-based leadership, confirming a full and serial mediation structure. Both mediators significantly channel the effect of simplicity toward *khasyā*, which subsequently exerts a strong and significant influence on drive for water governance ($\beta = 0.812$; $p = 0.001$). This finding highlights *khasyā* as a central mediating construct that translates ethical and cognitive antecedents into governance-related behavioral intention.

The indirect effect analysis further confirms that justice-based leadership provides a stronger mediating contribution through *khasyā* compared to environmental awareness. This suggests that perceived leadership justice plays a more dominant role in shaping spiritual-ethical consciousness within the studied rural context. Consequently, governance-related intentions are more strongly formed through leadership-mediated ethical internalization than through environmental cognition alone.

Methodologically, the study conceptualizes water governance as a perceived water governance engagement intention at the individual level, consistent with micro-foundation theory. This approach is grounded in the premise that collective governance outcomes can be approximated through individual perceptions, particularly when the research focuses on behavioral intention rather than institutional performance. Accordingly, the model ensures alignment between theoretical framing, measurement strategy, and structural analysis while avoiding cross-level inference bias.

D. CONCLUSION

This study confirms that *khasyā* functions as a central spiritual-ethical

mechanism linking Islamic values to the intention to support equitable and sustainable water governance in rural Muslim communities. The structural model shows that *khasyā* has a strong positive effect on the Drive for Water Governance ($\beta = 0.812$, $p < 0.001$). Furthermore, justice-oriented leadership contributes more strongly to *khasyā* ($\beta = 0.537$, $p < 0.001$) than environmental awareness ($\beta = 0.342$, $p < 0.001$), indicating that leadership grounded in justice and moral accountability plays a particularly important role in fostering spiritual consciousness related to water governance. Simplicity does not directly influence *khasyā* but operates indirectly through environmental awareness and justice-oriented leadership, highlighting the importance of cognitive and leadership pathways in translating ethical values into governance intentions.

Several limitations should be acknowledged. First, the study relied on convenience-based respondent participation, which may introduce selection bias. Second, data were collected only from rural Muslim communities in South Sulawesi, limiting geographical representation. Third, the sample was dominated by younger respondents, while the occupational category “Others” represented a substantial proportion of participants, reducing occupational specificity. Fourth, the study employed self-reported and cross-sectional data, which restrict causal inference and may be susceptible to common method bias. Fifth, the simplicity construct was represented by only two indicators following item removal and exhibited relatively low reliability compared with other

constructs. Sixth, the study did not incorporate objective indicators of water conditions or governance quality, relying instead on perception-based measures. Finally, the findings should be generalized cautiously to other rural Muslim communities due to contextual and cultural differences.

Future research is encouraged to employ probability sampling techniques, expand data collection to multiple regions and countries, and achieve more balanced demographic and occupational representation. Longitudinal and mixed-

method designs would strengthen causal interpretation and reduce common method bias concerns. Further refinement of the simplicity construct through additional indicators is also recommended to improve measurement reliability. Moreover, future studies should integrate objective measures of water availability, water quality, governance performance, and institutional effectiveness to complement perception-based assessments and enhance the robustness and generalizability of faith-based water governance models.

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