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The Mediating Role of *'Amanah* in Sustainability of Natural Resource Management among in Middle-Class Society

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Abstract

This study examines the role of *'Amanah* in promoting fair and sustainable natural resource management among middle-class communities in Bone Regency. The study is motivated by the limited body of research examining the importance of moral and ethical values, particularly *'A<ma<nah*, in fostering environmental sustainability.. It aims to analyze the influence of *'Amanah* on *Motivation for Natural Resource Management* and its mediating role in the relationship between *Environmental Awareness*, *Management Transparency*, and *Usage Responsibility* toward *Motivation for Natural Resource Management*. This study employed a quantitative approach using questionnaires distributed to 150 middle-class respondents selected through stratified random sampling across five districts in Bone Regency. Data were analyzed using Structural Equation Modeling (SEM) with SmartPLS. The findings reveal that *'Amanah* significantly influences *Motivation for Natural Resource Management*. Furthermore, *Environmental Awareness*, *Management Transparency*, and *Usage Responsibility* significantly affect *'A<ma<nah*, which subsequently mediates their relationship with *Motivation for Natural Resource Management*.These findings suggest that the internalization of *'Amanah* values can strengthen fair, transparent, and sustainable natural resource governance while contributing to the growing body of knowledge on the role of moral values in natural resource management.

Keywords: *'Amanah* , Natural Resource Management, Sustainability, Environmental Well-Being

1. Introduction

'Amanah in the just and sustainable management of natural resources has become a valuable legacy for future generations, as evidenced by three concrete practices observed in Indonesia. First, natural resource governance by indigenous communities, such as in the customary forests, reflects sustainability principles through traditional, wise resource utilization that maintains ecosystem balance and biodiversity (Purnawansyah et al., 2021). Second, sustainable agricultural practices adopting environmentally friendly technologies such as agroforestry and organic fertilizers have proven effective in enhancing soil fertility, reducing erosion, and supporting biodiversity without harming the environment (Prastiyo et al., 2022). Third, the development of renewable energy through Micro-Hydro Power Plants (PLTMH) provides clean electricity access for rural communities without disrupting river ecosystems, contributing to

climate change mitigation (Meita Rumbayan et al., 2022). These three practices demonstrate that Amanah-based natural resource management—grounded in local wisdom, technological innova.

To date, research on *'Amanah* has primarily focused on three domains: leadership, Islamic business and finance, and socio-cultural relations. In leadership studies, *'Amanah* has been identified as a key factor in fostering public trust, while its weak implementation may lead to declining confidence in bureaucratic institutions (Febriani, 2021; Prastiasa et al., 2024). In Islamic business and finance, it is regarded as a fundamental principle underpinning financial systems and the management of zakat and waqf institutions (Koswara & Al Mighwar, 2023; Heriyanto & Taufiq, 2024; Umiyati et al., 2023) . In socio-cultural contexts, *'Amanah* has been shown to strengthen social trust, community cohesion, and positive organizational cultures (Sidiq et al., 2021; Van Der Bles et al., 2020; Ogbeibu et al., 2021). However, research on *'Amanah* in natural resource management remains limited, despite its potential role in promoting justice, sustainability, and accountability in environmental governance. This study addresses this gap by extending the application of *'Amanah* to the context of sustainable natural resource management and contributing new insights to the existing literature.

This study draws upon two main theoretical frameworks: Environmental Ethics Theory and Sustainable Governance Theory. Environmental Ethics Theory emphasizes the moral responsibility of humans to preserve ecosystems, positioning *'Amanah* as a foundational principle in fostering environmental awareness and shaping sustainable policies (Emina, 2023). Meanwhile, Sustainable Governance Theory highlights the importance of integrity, transparency, and accountability in managing natural resources, ensuring that governance practices are not solely economically driven but also socially and ecologically balanced (Orach et al., 2020). These two theories serve as the conceptual basis for deriving the research variables, allowing for an empirical assessment of how *'Amanah* contributes to the realization of just and sustainable natural resource governance.

Broadly, this study aims to address a gap in the existing literature, which has paid limited attention to the role of *'Amanah* in promoting sustainable natural resource management. The primary focus is to examine how *'Amanah* mediates the relationship between environmental awareness, transparency in governance, and responsibility in resource utilization. This research is the first of its kind to specifically explore the mediating role of *'Amanah* within the context of middle-class communities a social group with a strategic position in both resource consumption and environmental preservation. By analyzing the interrelationship among these variables, this study seeks to provide new insights into how the value of *'Amanah* contributes to enhancing the effectiveness and sustainability of natural resource management, while simultaneously encouraging the development of collective awareness and more equitable, participatory, and transparent environmental governance policies.

2. Literature Review and Hypothesis Development / Conceptual Framework

2.1 Theoretical implication

This study is grounded in two principal theories: Environmental Ethics Theory and Sustainable Governance Theory. Environmental Ethics Theory emphasises that nature possesses intrinsic value that must be protected, encouraging responsible behaviour in the utilisation of natural resources (Emina, 2023). Individuals and institutions are required to make environmentally conscious decisions, such as waste reduction and the adoption of renewable energy sources (Hourdequin, 2024). Meanwhile, Sustainable Governance Theory highlights the importance of balancing current needs with the preservation of the environment for future generations (Orach et al., 2020). Sustainable governance demands policies that are fair, transparent, and participatory, addressing economic, social, and environmental dimensions holistically (Mason, 2020). These two theoretical frameworks form the basis for the formulation of research variables, the development of hypotheses, and the interpretation of findings, particularly in examining how 'Amanah' encourages equitable and sustainable natural resource management.

2.2 'Amanah' and Motivation for Natural Resource Management

‘Amanah’ plays a crucial role in fostering sustainable natural resource management (NRM). As part of humanity's responsibility as stewards (khalifah) of the earth, 'Amanah' mandates the wise, fair, and collective welfare-oriented utilisation of natural resources (Eaton et al., 2021). The motivation for NRM is a concrete manifestation of this value, realised through regulation, innovation, and collective awareness in maintaining environmental sustainability (Rashed & Shah, 2021). When ‘Amanah’ is upheld, NRM becomes sustainable, avoiding excessive exploitation and ensuring benefits for future generations. Conversely, neglecting this value risks unsustainable exploitation, damaging ecological and social balance (Vergura et al., 2023). Therefore, ‘Amanah’ serves as a moral foundation that strengthens responsible and sustainable NRM. Based on this reasoning, the hypothesis is formulated as follows:

H1: 'Amanah' influences the Motivation for Natural Resource Management.

2.3 Environmental Awareness and 'Amanah'

Environmental awareness represents a moral responsibility of humans in preserving the balance of the ecosystem entrusted by God. 'Amanah' compels people to recognise that the earth is not solely for exploitation but also for preservation for future generations (McLeod et al., 2024). Proper knowledge fosters environmentally friendly behaviour, such as reducing waste and choosing sustainable products (Asgar et al., 2022). Thus, environmental awareness is a tangible implementation of the 'Amanah' attitude, preserving environmental sustainability while preventing excessive exploitation. If 'Amanah' is neglected, environmental balance is disturbed, harming life (Ahmad, 2020). Therefore, the relationship between environmental awareness and 'Amanah' is mutually reinforcing in establishing a harmonious and sustainable ecosystem. Based on this rationale, the hypothesis is as follows:

H2: Environmental Awareness affects 'Amanah'.

2.4 Management Transparency and 'Amanah'

Management transparency and 'Amanah' are closely linked in realising fair and accountable governance. Transparency reflects openness in decision-making, resource utilisation, and accountability to relevant stakeholders, thus preventing abuse of authority (Mason, 2020). Meanwhile, 'Amanah' serves as a moral foundation that demands honesty and fairness in fulfilling entrusted responsibilities (Zheng et al., 2022). When management practices are founded on 'Amanah', transparency naturally develops, as trustworthy individuals will not conceal critical information. Therefore, transparency and 'Amanah' reinforce each other, creating governance systems that are transparent, accountable, and ethical. Based on this reasoning, the hypothesis is as follows:

H3: Management Transparency affects 'Amanah'.

2.5 Usage Responsibility and 'Amanah'

The relationship between usage responsibility and 'Amanah' is essential in ensuring that the utilisation of resources is conducted ethically, transparently, and responsibly. Usage responsibility reflects an individual's or group's awareness to utilise resources prudently, comply with regulations, and consider social and environmental impacts (Patwary, 2023). This attitude demands adherence to the principles of sustainability so that resource utilisation does not harm others (Zheng et al., 2022). Meanwhile, 'Amanah' is a moral value emphasising honesty, fairness, and integrity in fulfilling responsibilities. Trustworthy individuals will safeguard and utilise what is entrusted to them fairly and responsibly (Bulutoding, 2024). Therefore, usage responsibility based on 'Amanah' will create more ethical, fair, and sustainable resource management. The hypothesis proposed is as follows:

H4: Usage Responsibility affects 'Amanah'.

2.6 'Amanah' as a Mediator

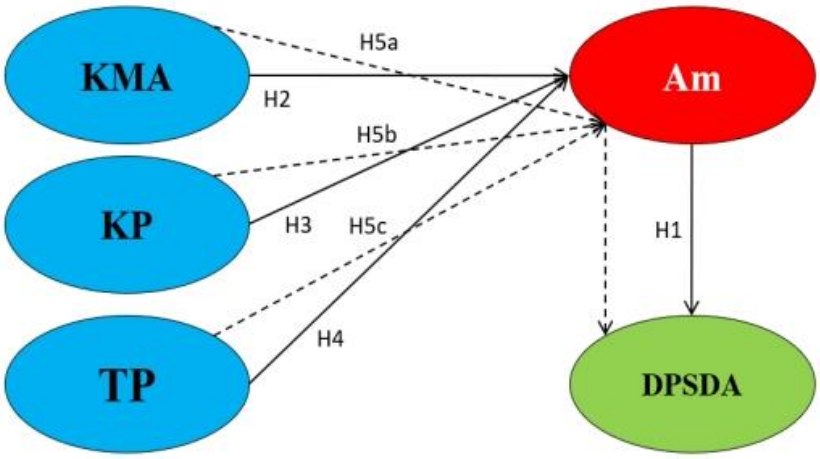
'Amanah' functions as a mediating factor connecting environmental awareness, management transparency, and usage responsibility with the motivation for natural resource management (NRM). These three factors alone are insufficient to drive responsible NRM without 'Amanah' as a moral anchor (Gill et al., 2021). 'Amanah' translates awareness into concrete policies and actions, strengthens transparency and accountability in resource governance, and instils a moral responsibility for the fair and sustainable utilisation of resources (He et al., 2021). In the absence of 'Amanah', NRM risks being conducted arbitrarily, harming the ecosystem (Avrami, 2020). Therefore, 'Amanah' serves as a fundamental principle that ensures resource management is practised wisely, transparently, and for the long-term common good. Based on this argument, the following hypotheses are proposed:

H5: 'Amanah' mediates the relationship between:

a. Environmental Awareness and Motivation for Natural Resource Management;
b. Management Transparency and Motivation for Natural Resource Management;
c. Conceptual Framework Usage Responsibility and Motivation for Natural Resource Management.

2.7 Conceptual Framework

Figure 1. Conceptual Framework



Based on the proposed hypotheses, this study develops a conceptual framework that illustrates the role of 'Amanah' (Am) as an intervening variable mediating the relationship between three independent variables—Environmental Awareness (EA), Management Transparency (MT), and Usage Responsibility (UR)—and the dependent variable, Motivation for Natural Resource Management (MNRM). These independent variables contribute to shaping 'Amanah', which subsequently strengthens the motivation for sustainable natural resource management among the middle-class society. Within this framework, 'Amanah' serves not merely as a mediator but also as a key factor that amplifies the positive influence of awareness, transparency, and responsibility in driving sustainable natural resource management behaviour.

3. Research Method

The questionnaire designed to validate the conceptual model of this study was divided into two main sections. The first section contained a statement outlining the research objectives, instructions for completing the questionnaire, and demographic data, including the respondents' age, education, occupation, and income. The second section employed a five-point Likert scale, ranging from "Strongly Disagree" (1) to "Strongly Agree" (5), to measure five principal constructs: Environmental Awareness (EA), Management Transparency (MT), Usage Responsibility (UR), 'Amanah' (Am), and Motivation for Natural Resource Management (MNRM). Each construct was measured using three to four indicators.

The data collection process was conducted over a three-month period in 2025. Respondents comprised members of the middle-class community residing in South Sulawesi, Indonesia. The respondents were selected using stratified random sampling based on geographical regions. The questionnaire was distributed both offline (in-person) and online through Google Forms, and disseminated via social media platforms to expand respondent outreach. A total of 150 fully completed responses were successfully collected, meeting the recommendations of (Hair et al.,

2011), who advise a sample size of at least ten times the number of parameters in an SEM-PLS model. This sample size also complies with the sampling adequacy criteria suggested by (Kyriazos, 2018) and (Schermelleh-Engel et al., 2014) for multivariate analysis.

Data analysis was performed using Structural Equation Modelling (SEM) with the Partial Least Squares (PLS) approach, utilising the SmartPLS software version 4.0.8.9 (Hair Jr, Joseph FLegate & Ringle, 2014). The analysis consisted of two stages. The first stage assessed the measurement model to confirm the validity and reliability of the constructs. Convergent validity was satisfied if the outer loadings were greater than 0.7, composite reliability exceeded 0.7, and the Average Variance Extracted (AVE) was above 0.5 (Hair Jr, Joseph FLegate & Ringle, 2014). Discriminant validity was evaluated through cross-loadings and the Fornell-Larcker criterion. Construct reliability was assessed using Cronbach's Alpha (acceptable if >0.6) and composite reliability (acceptable if >0.7) (Gottems et al., 2018).

The second stage involved structural model analysis to examine the relationships between variables and the mediating role of 'Amanah'. Path significance was assessed using p-values < 0.05, while model strength was determined by R-square values (>0.25 indicating moderate strength), Adjusted R-square (>0.25), and predictive relevance (Q-square). The mediating effects and path strengths were evaluated using f-square values, with thresholds of 0.02 for small effect, 0.15 for medium effect, and 0.35 for large effect, as recommended by (Hair Jr, Joseph FLegate & Ringle, 2014)

4. Results

Respondent Characteristics

As presented in Table 1, the majority of respondents were female (63%) and aged between 18 and 32 years (97.34%), with the largest age group being 18–22 years (56.67%). In terms of educational background, most respondents held a senior secondary school qualification or its equivalent (58.67%), followed by those with a bachelor's degree (33.33%). Regarding occupation, the majority of respondents fell under the "Other" category (77.33%). In terms of income, most respondents selected the "Uncertain/Other" category (46%), followed by those earning below IDR 1 million (22.67%) and those earning between IDR 1–3 million (21.33%).

Table 1. Respondent Characteristics

Criteria/Category	Frequency	Percentage
Gender		
Male	56	37%
Female	94	63%
Usia		
18 - 22	85	56,67%
23 – 27	41	27,33%

28 – 32	19	12,67%
33 – 37	1	0,67%
38 – 43	2	1,33%
44 – 50	2	1,33%
Total	**150**	**100%**
Educational Level		
Primary School (SD)	-	0%
Junior Secondary School (SMP)	1	0.67%
Senior Secondary School (SMA)	88	58.67%
Diploma (II/III/IV)	-	0%
Bachelor's Degree (S1)	50	33.33%
Postgraduate (S2/S3)	8	5.33%
Others	3	2%
Total	**150**	**100%**
Occupation		
Lecturer/Teacher	7	4,67%
Government/Private Employee	12	8,00%
Military/Police	-	0,00%
Entrepreneur/Trader	9	6,00%
Farmer	6	4,00%
Others	116	77,33%
Total	**150**	**100%**
Monthly Income		
Below IDR 1 million	34	22,67%
IDR 1 million – 3 million	32	21,33%
IDR 3 million – 5 million	9	6,00%
Above IDR 5 million	6	4,00%
Uncertain/Others	69	46,00%
Total	**150**	**100%**

4.1.1 Measurement Model Testing

Based on Table 2, the results of validity and reliability testing demonstrate that all constructs meet excellent criteria. Cronbach's Alpha values exceeding 0.80 indicate high internal consistency, while Composite Reliability (both rho_a and rho_c) values above 0.70 reflect strong instrument reliability. Additionally, Average Variance Extracted (AVE) values exceeding 0.75 confirm that the indicators successfully explain the majority of the construct variance. Therefore, the research instrument is considered valid and reliable and is suitable for further model analysis.

Table 2. Validity and Reliability Values

Variable	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	Average Variance Extracted (AVE)
'Amanah **(Am)**	0.915	0.915	0.946	0.855
Motivation for Natural Resource Management **(DPSDA)**	0.835	0.836	0.924	0.858
Environmental Awareness **(KMA)**	0.868	0.875	0.920	0.793
Management Transparency **(KP)**	0.844	0.844	0.906	0.763
Usage Responsibility **(TP)**	0.895	0.900	0.934	0.826

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

Table 3 presents the outer loading values, reflecting the strength of each indicator in representing the latent construct. In general, all indicators recorded outer loading values ≥ 0.80, with many exceeding 0.90, indicating excellent convergent validity. For example, the indicators for the variable 'Amanah' (Am1–Am3) recorded values above 0.91, and similar results were found for DPSDA, EA, MT, and UR indicators. However, the indicator DPSDA2 was excluded from the model due to an outer loading value below 0.70, in order to maintain measurement accuracy. Consequently, all remaining indicators met the validity criteria and were deemed appropriate for further analysis.

Table 3. SEM-PLS: Outer Loading Values

Variable	*'Amanah* (Am)	Motivation for Natural Resource Management (DPSDA)	Environmental Awareness (KMA)	Management Transparency (KP)	Usage Responsibility (TP)
Am1	0.926				
Am2	0.932				
Am3	0.914				
DPSDA1		0.923			
DPSDA3		0.930			
KMA1			0.829		
KMA2			0.922		
KMA3			0.918		
KP1				0.821	
KP2				0.903	
KP3				0.894	
TP1					0.897

TP2					0.931
TP3					0.898

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

The Fornell-Larcker criterion test was applied to ensure discriminant validity, confirming that each construct better represents its own indicators compared to other constructs. According to Table 4, all square root AVE values on the diagonal were higher than the correlations between constructs. For instance, the square root of AVE for the 'Amanah' construct was 0.924, higher than its correlations with DPSDA (0.846), EA (0.799), MT (0.680), and UR (0.843). Similar patterns were observed for the EA (0.891), MT (0.873), and UR (0.909) constructs, where each square root AVE was higher than the inter-construct correlations. These results confirm that the model satisfies the discriminant validity criteria, meaning each construct can be clearly distinguished within the model.

Table 4. Fornell-Larcker Criterion Values

Variable	*'Amanah* (Am)	Motivation for Natural Resource Management (DPSDA)	Environmental Awareness (KMA)	Management Transparency (KP)	Usage Responsibility (TP)
Am	0.924				
DPSDA	0.846	0.926			
KMA	0.799	0.774	0.891		
KP	0.680	0.552	0.594	0.873	
TP	0.843	0.826	0.796	0.599	0.909

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

The R-Square and Adjusted R-Square values indicate how well the regression model explains the variability of the data. Based on Table 4.7, the 'Amanah' variable had an R-Square of 0.785 and an Adjusted R-Square of 0.781, meaning that approximately 78.5% of the variance was explained by the model, remaining strong after adjustment for the number of predictor variables. Meanwhile, the DPSDA variable recorded an R-Square of 0.716 and an Adjusted R-Square of 0.714, suggesting that the model explained approximately 71.6% of the variance, with a slight adjustment to 71.4%. The small difference between these values indicates that the model fit is adequate and does not suffer from significant overfitting.

Table 5. R-Square and Adjusted R-Square Values

Variabel	R-square	R-square adjusted
'Amanah (**Am**)	0.785	0.781
Motivation for Natural Resource Management (**DPSDA**)	0.716	0.714

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

The F-Square values show the magnitude of influence of each independent variable within the model. As shown in Table 4.8, 'Amanah' (Am) had the greatest influence, with a value of 2.521. In contrast, Environmental Awareness (EA) and Management Transparency (MT) had small effects, with values of 0.123 and 0.139, respectively, while Usage Responsibility (UR) had a medium effect with a value of 0.380. The Motivation for Natural Resource Management (DPSDA) variable was not calculated, as it serves as the dependent variable. These results indicate that 'Amanah' is the most influential factor within the model.

Table 6. F-Square Values

Variable	*'Amanah* (Am)	Motivation for Natural Resource Management (DPSDA)	Environmental Awareness (KMA)	Management Transparency (KP)	Usage Responsibility (TP)
Am		2.521			
DPSDA					
KMA	0.123				
KP	0.139				
TP	0.380				

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

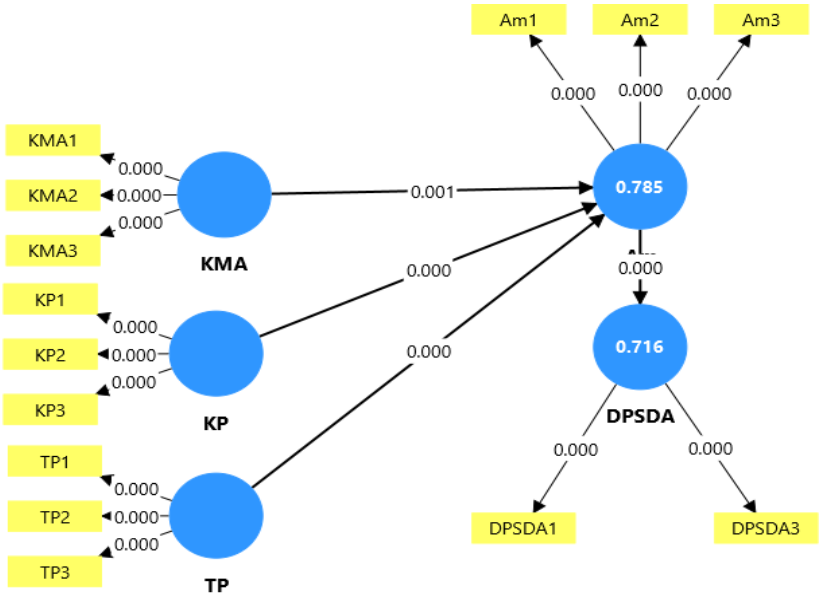
Structural Model Testing

Table 7 presents the results of the path analysis using SEM-PLS, indicating that *'Amanah* (Am) plays a pivotal role as a mediator in promoting equitable and sustainable natural resource management (DPSDA). Am exhibits a highly significant effect on DPSDA, with a coefficient of 0.846, a T-statistic of 24.571, and a p-value of 0.000. Environmental Stewardship Awareness (KMA), Management Transparency (KP), and Responsible Utilisation (TP) also demonstrate significant effects on Am, with coefficients of 0.277, 0.223, and 0.489, respectively, and p-values < 0.05. These findings suggest that higher levels of environmental awareness, transparency, and responsibility in the utilisation of natural resources strengthen the value of *'Amanah* , which ultimately encourages communities to engage more actively in equitable and sustainable natural resource management.

Table 7. SEM-PLS: Direct Effects

Relationship / Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
***'Amanah* -> DPSDA**	0.846	0.842	0.034	24.571	0.000
KMA -> Am	0.277	0.275	0.081	3.418	0.001
KP -> Am	0.223	0.228	0.053	4.186	0.000
TP -> Am	0.489	0.483	0.085	5.725	0.000

Figure 2. Measurement Model Testing Results



Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

Table 8 demonstrates that *'Amanah* (Am) serves as a significant mediating variable in the indirect relationship between Environmental Preservation Awareness (KMA), Management Transparency (KP), and Responsibility in Resource Utilization (TP) toward the Motivation for Natural Resource Management (DPSDA). The indirect effect of KMA on DPSDA through Am was 0.235, while KP showed an effect of 0.188. TP exhibited the strongest indirect effect, with a coefficient of 0.414. All relationships were statistically significant ($P < 0.05$). These findings indicate that higher levels of environmental awareness, transparency in resource management, and responsibility in natural resource utilization contribute to strengthening the value of *'Amanah* , which subsequently enhances community participation in fair and sustainable natural resource management. Overall, these results underscore the importance of reinforcing moral values and integrity in fostering collective environmental responsibility.

Table 8. SEM: Indirect Effects

Relationship / Hypothesis	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
KMA -> Am -> DPSDA	0.235	0.231	0.068	3.442	0.001
KP -> Am -> DPSDA	0.188	0.192	0.043	4.362	0.000
TP -> Am -> DPSDA	0.414	0.408	0.078	5.328	0.000

Source: Primary data (questionnaire) processed using SmartPLS-4, 2025.

5. Discussion

The results presented in Table 7 indicate significant direct relationships among the principal variables in the model examining the motivation for natural resource management through the perspective of *'Amanah* values. *'Amanah* demonstrated a very strong direct effect on the Motivation for Natural Resource Management (DPSDA) (β = 0.846, T = 24.571), highlighting the critical role of moral and spiritual values in fostering fair and sustainable management practices. Environmental Preservation Awareness significantly influenced *'Amanah* (β = 0.277, T = 3.418), followed by Management Transparency (β = 0.223, T = 4.186), while Responsibility in Resource Utilization exerted the strongest effect (β = 0.489, T = 5.725). These findings suggest that ecological awareness, transparency, and responsible utilization of natural resources substantially contribute to the development of *'Amanah* attitudes. Collectively, the results emphasize the importance of integrating environmental ethics and sustainable governance principles in promoting active community participation in natural resource management.

The findings further confirm that ethical values, including environmental awareness, management transparency, and responsibility in resource utilization, significantly contribute to the formation of *'Amanah* attitudes, which subsequently encourage fair and sustainable natural resource management behavior. These results are consistent with previous studies. For instance, (Wattimena et al., 2023) highlighted the importance of ecological education in shaping moral awareness, while (Mongo et al., 2021) emphasized the role of transparency in strengthening public trust in environmental governance. Similarly, (McLeod et al., 2024) demonstrated that community participation in conservation initiatives enhances ecological responsibility, whereas (Intan Veronica et al., 2022) argued that *'A<ma<nah*, from the perspective of Islamic ethics, serves as a moral foundation for equitable and sustainable natural resource governance. Overall, this study reinforces the importance of integrating environmental education, governance transparency, and ethical value internalization in advancing sustainable natural resource governance.

The structural model developed in this study is closely aligned with the principles of the Qur'an and the teachings of the Prophet Muhammad (peace be upon him), where the value of *'Amanah* constitutes the core foundation for promoting fair and sustainable natural resource management. Environmental preservation awareness is rooted in Allah's command in QS. Al-A'raf (7:56), which prohibits humankind from causing destruction on earth after it has been set in order, thereby illustrating that ecological awareness is an integral part of spiritual responsibility. Transparency in governance is reflected in the hadith narrated by Bukhari and Muslim regarding accountable leadership, emphasizing transparency as a manifestation of social *'A<ma<nah*. Meanwhile, responsibility in the utilization of natural resources corresponds with the teachings of QS. Al-Baqarah (2:205) and QS. Al-Anfal (8:27), which condemn environmental destruction and betrayal of Allah's trust. Collectively, the model demonstrates that sustainable natural resource management emerges from the integration of ecological

awareness, social responsibility, and spiritual values, reflecting a holistic Islamic ethical framework for fostering fair, transparent, and sustainable environmental governance.

Furthermore, the indirect path analysis presented in Table 8 reveals that Environmental Preservation Awareness, Management Transparency, and Responsibility in Resource Management significantly influence the Motivation for Natural Resource Management (DPSDA) through the mediating role of *'Amanah* , as evidenced by all p-values being below 0.05. The pathways from Environmental Preservation Awareness ($\beta = 0.235$, $T = 3.442$, $p = 0.001$), Management Transparency ($\beta = 0.188$, $T = 4.362$, $p = 0.000$), and Responsibility in Resource Management ($\beta = 0.414$, $T = 5.328$, $p = 0.000$) consistently demonstrated high statistical significance. These findings confirm that *'Amanah* functions as a crucial mediating variable linking individual ethical dimensions to behavioral motivations for fair and sustainable natural resource management. The study further strengthens the relevance of integrating Environmental Ethics Theory and Sustainable Governance Theory, where *'Amanah* operates as a moral force that internalizes awareness, transparency, and responsibility into sustainable resource management practices, extending beyond technical regulations toward personal and collective ethical commitments.

These findings are consistent with Alam & Zakaria, (2021), who demonstrated that ecological awareness, reinforced through education and occupational status, contributes significantly to environmentally responsible behavior in Sylhet City, Bangladesh. Likewise, Maumoh & Yindi, (2021) argued that transparency in environmental governance enhances farmers' moral responsibility in Kenya, as explained through the Value-Belief-Norm Theory, which emphasizes the importance of values and beliefs in shaping pro-environmental behavior. From an Islamic perspective Azzahra & Maysithoh, (2024) further asserted that humanity's responsibility as *khalīfah* constitutes an ethical foundation that shapes *amanah* -oriented attitudes toward equitable and sustainable natural resource management. The integration of these findings clarifies that *'Amanah* serves as a key mediating construct linking awareness, transparency, and responsibility with natural resource management behavior. This strengthens the argument that value-based and spiritual approaches are more effective in promoting fair and sustainable environmental governance than approaches relying solely on technical mechanisms.

Ethical Framework of Sustainable Natural Resource Management

The ethical framework for sustainable natural resource management developed in this study is also deeply rooted in the Qur'an and Hadith. Surah Ar-Rum (30:41) emphasizes that corruption and environmental degradation on land and sea are consequences of human actions, thereby highlighting the importance of ecological awareness in maintaining environmental balance as part of spiritual responsibility. The principle of transparency is reflected in Surah Al-Baqarah (2:42), which prohibits concealing the truth or mixing truth with falsehood, aligning closely with the need for transparency in natural resource governance. Furthermore, *'Amanah* as the core principle of responsible management is strongly emphasized in Surah Al-Ahzab (33:72), which portrays humankind as the bearer of a profound trust rejected by the heavens, the earth,

and the mountains due to the weight of its responsibility. This concept is reinforced by the Prophet Muhammad's (peace be upon him) hadith: *"Each of you is a leader, and each of you will be held accountable for those under your care"* (Narrated by Bukhari and Muslim), which clearly underlines individual accountability in safeguarding natural resources. Overall, the integration of ecological awareness, transparency, and responsibility within the framework of *'Amanah* demonstrates that fair and sustainable natural resource management is not merely a social obligation, but also a spiritual trust inherently embedded within Islamic teachings.

6. Conclusion

Based on the findings of the analysis, this study concludes that *'Amanah* plays a crucial role in promoting fair and sustainable natural resource management among middle-class communities. *'Amanah* was found to exert a strong direct influence on the motivation for natural resource management, while simultaneously serving as a significant mediating variable between environmental preservation awareness, management transparency, and responsibility in resource utilization. These three variables positively contributed to the formation of *'Amanah* values, with responsibility in resource utilization demonstrating the strongest influence. The findings confirm that ethical attitudes, transparency, and ecological awareness not only shape the character of *'Amanah* within individuals, but also encourage active public engagement in preserving environmental sustainability in accordance with moral values and social responsibility.

In line with these findings, several important recommendations are proposed to strengthen the implementation of *'Amanah* -based natural resource management. First, the value of *'Amanah* should be integrated into community empowerment and environmental education programs through participatory training involving religious leaders, youth groups, and local communities. Second, future qualitative studies are recommended to further explore how *'Amanah* values are formed through the roles of community leaders and social practices. Third, the scope of research should be expanded to other regions and communities in order to examine the relevance of these findings across different cultural contexts. Fourth, relevant institutions are encouraged to develop and evaluate Amanah-based social programs, such as simulations and group discussion initiatives. Finally, governments are expected to formulate natural resource management policies that are not solely grounded in technical and legal frameworks, but are also rooted in local moral and spiritual values to achieve environmentally sustainable and socially just governance.

Author Contributions

Ina Safitri contributed to the conceptualization of the study, methodology development, data collection, data analysis, and preparation of the original draft. Syaparuddin Razak contributed to research supervision, methodology validation, critical review of the scientific content, and manuscript writing, review, and editing. Ida Farida contributed to the review of the analytical results, refinement of the manuscript, final review and editing, and provided academic input to

improve the quality of the article. All authors have read, reviewed, and approved the final version of the manuscript and agree to be accountable for the content of the study.

Conflict of Interest Statement

The authors declare that there are no financial, professional, or personal conflicts of interest that could have influenced the conduct of the research, the analysis of the data, the preparation of the manuscript, or the decision to publish this article.

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