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Original Article

### Institutional Influence and Cultural Contexts in Student-led Environmental Action at the Muslim University of Morogoro. A Quantitative Study

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This study examines the institutional and socio-cultural factors influencing environmental conservation participation among students at the Muslim University of Morogoro (MUM). Utilizing a quantitative research design, data were collected from 440 students through both onsite (face-to-face) and online (Google Form) surveys. The survey instrument included a series of Likert-scale items designed to measure students' levels of environmental awareness, attitudes, perceived institutional support, socio-cultural influences, and actual participation in conservation activities. Descriptive analysis revealed that students demonstrated moderate to high levels of environmental awareness and positive attitudes toward conservation. However, actual participation remained limited due to several key factors. Notably, the absence of an independent environmental club on campus emerged as a significant institutional barrier, restricting structured opportunities for engagement. Instead, students relied on existing clubs such as the Geography and Biology associations, which lacked a specific focus on environmental action. Pearson correlation analysis indicated statistically significant positive relationships between students' participation in environmental conservation and both institutional support and socio-cultural influences, particularly those rooted in religious and community values. These results highlight the urgent need for MUM to establish a dedicated environmental club and strengthen institutional structures to empower student-led conservation efforts. The study recommends future research to firstly explore qualitatively the perception and attitude of students towards their participation in environmental activities at MUM, and second, to investigate the effectiveness of environmental clubs once established and the long-term impact of faith-based environmental education.

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## INTRODUCTION

Environmental challenges such as climate change and biodiversity loss continue to threaten ecosystems globally, with developing nations like Tanzania being especially vulnerable. Higher education institutions play a crucial role in cultivating environmental responsibility among young people, particularly university students who are poised to shape future sustainability efforts (Mramba & Mapunda, 2024). While global initiatives emphasize student engagement in environmental action (United Nations Environment Programme [UNEP], 2023), actual participation remains low in many institutions, particularly in developing countries.

Studies have shown that university leadership, policy frameworks, and resource availability can significantly impact student engagement in sustainability activities. For example, findings from recent research indicate that administrative support, educational initiatives, and organizational structure all contribute to enhancing environmental participation among students (Bennett et al. 2022). At the same time, cultural values and community norms play a significant role, often guiding how individuals perceive and respond to environmental concerns.

In Tanzania, cultural traditions, local beliefs, and religious teachings influence how communities

interact with the environment. Research in the Uzungwa Scarp Forest Reserve revealed that traditional knowledge and cultural rituals strongly shaped the way locals engaged in forest conservation efforts (Elisha, Nzali, & Philipo, 2023). However, little empirical work has examined how such socio-cultural factors, in combination with institutional dynamics, affect university students, especially within religiously affiliated institutions.

Given this gap, the current study focuses on MUM, a faith-based institution where Islamic teachings are integrated into academic and social life. Although Islam strongly emphasizes environmental stewardship through concepts such as *khalifah* (stewardship), *amana* (trust), and *mizan* (balance), limited research has explored how these values are reflected in student participation in conservation activities. MUM, therefore, offers a unique opportunity to examine how institutional arrangements and religious-cultural values interact to shape environmental engagement among students in a Tanzanian university setting. Understanding this relationship is important for informing context-specific policies and educational strategies aimed at promoting sustainability in religiously affiliated institutions.

This study addresses that gap by investigating how institutional and socio-cultural variables influence environmental conservation participation among

students at the Muslim University of Morogoro (MUM). Given MUM's unique religious and cultural setting, it offers a compelling case to understand how faith-based education intersects with environmental values and practices. Through a quantitative approach, this research aims to reveal actionable insights that can inform environmental education policy and programmes within similar academic institutions.

## THE THEORETICAL AND EMPIRICAL REVIEW

This study is guided by three complementary perspectives, ie. The Theory of Planned Behaviour (TPB), Value-Belief-Norm (VBN), and Institutional theory collectively provide a comprehensive understanding of student participation in environmental conservation.

The Theory of Planned Behaviour (Ajzen, 1991) explains how individual behaviour is shaped by intention, which itself is influenced by attitudes, perceived social expectations (subjective norms), and one's perceived ability to perform the behaviour (perceived behavioural control). In the context of university students, TPB has been widely applied to examine the degree to which environmental engagement is driven by their beliefs, peer influences, and their confidence in taking environmental action.

In addition, the Value-Belief-Norm Theory (Stern, 2000) adds a moral and normative dimension to environmental behaviour. VBN assumes that individuals with strong ecological values and environmental beliefs tend to feel a moral obligation to act, especially when they perceive environmental threats as personally significant. This theory is particularly useful in exploring the impact of religion and culture in shaping pro-environmental norms, especially in faith-based institutions like the Muslim University of Morogoro, where values are deeply embedded in the curriculum and community engagement activities.

On the institutional side, Institutional Theory (Scott, 2001) offers a structural lens to examine how formal rules, leadership styles, and organizational culture influence behaviour within institutions. In Tanzanian universities, institutional variables such as leadership commitment, environmental policies, and program design have been shown to influence student participation in sustainability efforts (Naku, Kihila, & Mwageni, 2021). This theory is essential in understanding how the university's governance and infrastructure either promote or hinder student involvement in conservation initiatives.

Combined, these theories suggest that students' participation in environmental conservation is not an individual choice, but a behaviour influenced by a combination of psychological intentions, cultural and religious values, and institutional support systems. This integrated framework provides a strong foundation for investigating the specific factors that shape conservation behaviour at the Muslim University of Morogoro.

Empirically, Environmental conservation has become a central focus within higher education institutions globally, with many universities adopting sustainability practices across academic and operational frameworks. Educational programs are increasingly designed to instil environmental values and practical skills in students, enabling them to engage with global ecological challenges (Time, 2021). Interdisciplinary teaching, which integrates environmental content across science, humanities, and social science disciplines, has proven effective in promoting environmental literacy.

Across Africa, efforts to strengthen environmental awareness through education have intensified. Initiatives in various countries have aimed to embed environmental education into formal schooling and university programs, promoting youth involvement in ecological restoration and sustainable resource use (Nature Tanzania, 2024). These programs have shown promising outcomes in building environmental responsibility among young people. African governments and educational bodies have

initiated regional partnerships to harmonize environmental education frameworks. For instance, through collaborative policies and knowledge-sharing platforms, countries are working to create culturally relevant and context-specific environmental education curricula that align with local ecological needs (UNESCO, 2023). Despite these advances, institutional capacity and funding remain challenges in implementing those efforts.

In Tanzania, environmental education has been recognized as a strategic tool for achieving sustainable development goals. The launch of the National ESD Strategic Framework (2023–2030) illustrates the government's commitment to integrating sustainability into all levels of education (UNESCO, 2023). Universities in the country have begun incorporating environmental modules, albeit at varying levels of depth and student engagement. Empirical studies conducted in Tanzanian universities reveal disparities in student participation in conservation activities. For example, a study at the University of Dodoma found that students' engagement with climate-related issues was influenced by factors such as gender, academic background, and rural-urban upbringing (Mramba & Mapunda, 2024). These findings suggest the need for more inclusive and student-centred approaches to environmental learning.

At the local level, Morogoro region has witnessed targeted community-based efforts aimed at promoting environmental awareness among youth. Programs like the VUKA initiative have empowered young people with hands-on conservation skills and supported sustainable land management practices, especially in ecologically sensitive areas like the Uluguru Mountains (FAO, 2023). These initiatives demonstrate how localized, participatory approaches can foster meaningful environmental engagement. Additionally, research from secondary schools in Mvomero District emphasize the role of early environmental education in shaping pro-conservation behaviours. Masona (2022) found that exposure to environmental topics

at the secondary level significantly influenced students' attitudes and practices. However, such programs are not uniformly implemented across institutions, highlighting the need for consistent, long-term strategies.

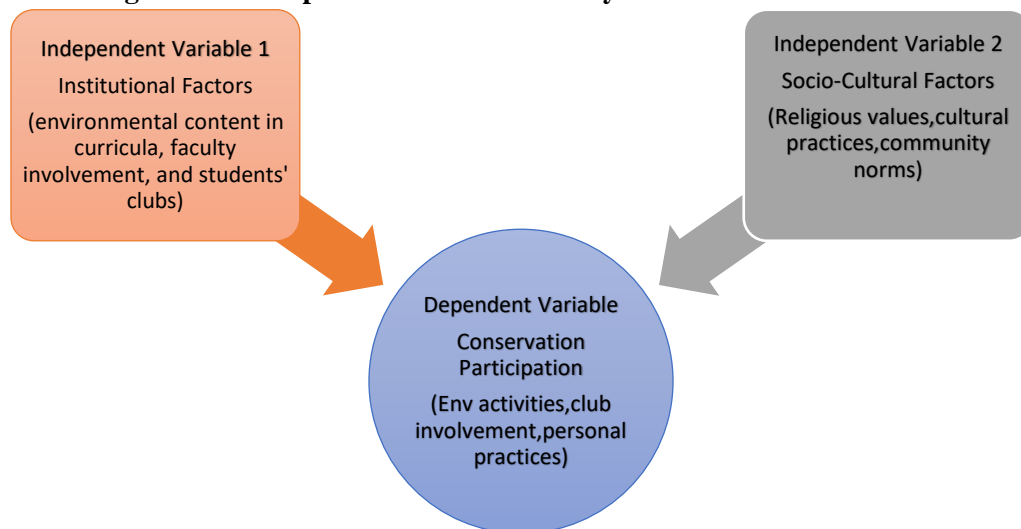
While numerous studies have examined environmental education and youth participation at national and regional levels, limited empirical research has been conducted within the context of faith-based universities in Tanzania. Specifically, the intersection of institutional support and socio-cultural influences such as religious values and community expectations remains underexplored in determining students' conservation behaviours. This study addresses that gap by investigating how these factors influence environmental participation at the Muslim University of Morogoro, thereby contributing to an understanding of environmental conservation sensitivity in culturally unique academic environments.

### Study Variables

This study explores three core variables as demonstrated in Figure 1; students' engagement in environmental conservation (dependent variable), and institutional and socio-cultural influences (independent variables). Student participation refers to the range of environmentally conscious actions undertaken by learners, such as tree planting, waste reduction, and environmental advocacy, often influenced by awareness and personal responsibility (Abbas & Singh, 2019). Institutional determinants encompass the structural and educational frameworks within the university, such as environmental content in curricula, faculty involvement, and student clubs (even when indirectly linked, like geography or biology clubs), which can shape attitudes and behaviours toward conservation (Nguyen et al., 2021). Socio-cultural influences include religious values, cultural practices, and community norms that impact students' environmental ethics, particularly within Islamic worldviews that emphasize stewardship (khalifah) and sustainability as moral obligations

(Al-Jayyousi, 2016). Understanding these variables provides a basis for enhancing conservation participation in faith-based educational settings.

**Figure 1: Diagrammatic Representation of the Study Variables**



### Study Objective and Hypothesis

- To examine the influence of institutional factors (e.g., environmental policies, leadership, and program benefits) on students' participation in environmental conservation activities at the Muslim University of Morogoro.
- To assess the impact of socio-cultural factors (e.g., religious beliefs, community norms, and gender roles) on students' involvement in environmental conservation practices.

H<sub>1</sub>: Institutional factors have a statistically significant influence on students' participation in environmental conservation activities.

H<sub>2</sub>: Socio-cultural factors significantly affect the level of student involvement in environmental conservation activities.

### STUDY METHODOLOGY

This study utilized a quantitative cross-sectional research design to examine how institutional and socio-cultural factors influence students' participation in environmental conservation at MUM. A cross-sectional survey was ideal for

capturing perceptions at a single point in time, which is common in behavioural and attitudinal studies (Bryman, 2021). The study targeted undergraduate students from all faculties at MUM.

A sample of 440 students was selected using stratified random sampling to ensure diverse representation across academic disciplines, year levels, and gender. Stratification helped reduce sampling bias and improve the representativeness of the findings (Etikan&Bala, 2023). The sample size was determined based on the standard population proportion formula for finite populations:

$$n = [Z^2 \times p \times (1 - p) / e^2] \times [N / (N - 1 + (Z^2 \times p \times (1 - p) / e^2))]$$

Where:

n= required sample size

Z= Z-score corresponding to the desired confidence level (e.g., 1.96 for 95%)

p = estimated proportion of the attribute present in the population (use 0.5 for maximum variability)

$e$  = margin of error (expressed as a decimal, e.g., 0.05 for 5%)

$N$  = population size

Assuming a 95% confidence level ( $Z = 1.96$ ), a proportion estimate of 50% ( $p = 0.5$ ) for maximum variability, a 5% margin of error ( $e = 0.05$ ), and an undergraduate population of 2,000 students ( $N$ ), the calculated sample size was 322. To increase statistical power, improve subgroup analysis, and account for potential non-response, the sample was expanded to 440 respondents.

The survey instrument was a structured questionnaire developed from existing literature on environmental education and behaviour (Ajzen, 1991; UNESCO, 2023). It consisted of four sections: demographics; institutional factors (e.g., policies, leadership, and programs); socio-cultural influences (e.g., religious teachings, norms, and gender roles); and environmental conservation behaviours (e.g., club involvement, tree planting, and waste management).

Data were collected through face-to-face distribution on campus and online via Google Forms. This triangulated approach improved access, convenience, and response rates, especially for off-campus and busy students (Ali et al., 2022). Respondents were briefed on the study's purpose, assured of confidentiality, and gave informed consent electronically. Data were stored securely and used solely for academic purposes.

Responses were measured on a five-point Likert scale, which enabled quantification of attitudes, perceptions, and behaviours. A pilot study involving 30 students was conducted to refine question clarity and structure. The instrument's

internal consistency yielded a Cronbach's alpha of 0.81, indicating strong reliability (Tavakol & Dennick, 2022).

Data were analyzed using SPSS version 22. Descriptive statistics were used to summarize demographic characteristics and item-level responses. To assess the relationships between institutional and socio-cultural factors and students' conservation behaviours, the Pearson correlation coefficient was employed. This statistical method was appropriate given that the study variables were measured using Likert-scale items and treated as continuous data. Pearson correlation enabled the examination of the strength and direction of associations between predictor variables and conservation participation (Schober et al., 2021).

## STUDY RESULTS AND DISCUSSIONS

### Descriptive Results

Descriptive statistics were calculated, and Table 1 summarizes the frequency and percentage of the participants in relation to their demographic characteristics as indicated. A total of 440 students participated in the study, consisting of 250 males (56.8%) and 190 females (43.2%). Participants were enrolled across four faculties at the Muslim University of Morogoro: Law with Sharia (94 students, 21.4%), Business Studies (99, 22.5%), Science (118, 26.8%), and Arts & Humanities (129, 29.3%). Regarding their academic year, the sample included 179 first-year students (40.7%), 159 second-year students (36.1%), and 102 third-year students (23.2%). This distribution reflects a balanced representation across gender, faculties, and academic levels, providing a diverse sample for this study.

**Table 1: Demographic Characteristics of the Respondents.**

<b>Demographic Characteristics of the Respondents</b>			
<b>Category</b>	<b>Unit</b>	<b>Frequency</b>	<b>Percentage (%)</b>
<b>GENDER</b>	FEMALE	250	56.8
	MALE	190	43.2
	TOTAL	440	100%
<b>FACULTY</b>	LAW WITH SHARIA	94	21.4
	BUSINESS STUDIES	99	22.5
	SCIENCE	118	26.8
	ARTS & HUMANITIES	129	29.3
	TOTAL	440	100%
<b>YEAR OF STUDY</b>	FIRST	179	40.7
	SECOND	159	36.1
	THIRD	102	23.2
	TOTAL	440	100%

**Source:** Survey Response (2024)

**Table 2: Participation of Students in Environmental Conservation Activities**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Valid	YES	382	86.8	88.8	86.8
	NO	48	10.9	20.6	100.0
	Total	430	97.7	100.0	
Missing	System	10	2.2		
Total		440	100.0		

**Source:** Statistical data (2024)

Tables 2 reveal that (282) 86.8% out of 430 participants responded YES that they belong to any Environmental-related clubs at MUM, while (48) 48% out of 430 participants responded NO.

This suggests that the majority of students at MUM are aware of and do participate in some of the activities related to environmental conservation on the campus. As for those who responded NO seem not as well engaged in conservation activities.

This could have been influenced by the lack of an independent Environmental club. The available clubs are subject-based. i.e. geography and biology, hence not directly related to students from the business and law faculties. Research indicates that universities with active environmental clubs often see higher levels of student participation in

activities such as tree planting, recycling campaigns, and awareness programs (Adom & Asamoah, 2021; Atamturk & Donmez, 2022; Teksoz et al., 2021). On the other hand, the lack of such initiatives at the Muslim University of Morogoro could lead to a sense of misinformed, where individual efforts to engage in conservation are less coordinated and less visible, resulting in low participation.

In addition, other factors can hinder University students from engaging in extracurricular activities. Examples are limited resources, low motivation and the academic workload (Brandli et al., 2022). The academic workload seems to consume much of students' time; they feel that their primary role is to fully focus on their studies.

**Table 3: Mean and Standard Deviation of Factors Influencing Participants' Environmental Participation**

Descriptive Statistics Variables	Mean	Std. Deviation	N
Environmental Participation	3.42	0.71	440
Institutional factors	3.25	0.68	440
Socio-cultural factors	3.74	0.72	440

Source: Statistical data (2024)

Table 3 shows that Institutional factors scored a mean of 3.25 (SD = 0.68), while socio-cultural factors had a higher average (M = 3.74, SD = 0.72), suggesting that cultural and religious influences play a stronger role in shaping student behaviour.

### Pearson Correlation Results and Hypothesis Testing

Pearson correlation analysis was conducted to test the relationships between variables.

**Table 4: Correlation Analysis Results**

Variables		Correlations		
		1	2	3
1. Env participant	Pearson Correlation	1	1	1
2. Institutional Factors				
	N	440	440	
3. Socio-Cultural Factors	Pearson Correlation	.47***	.53	
		.61***		
	N	440	440	

\*\*\*. Correlation is significant at the 0.001 level (p < .001), 2-tailed

### *The Influence of Institutional Factors on Students' Participation in Environmental Conservation Activities.*

The study's first Hypothesis stated that *Institutional factors have a statistically significant influence on students' participation in environmental conservation activities.* The analysis results in Table 4 show a significant positive relationship between institutional factors and students' participation in environmental conservation. This hypothesis was confirmed by a moderate positive correlation ( $r = 0.47$ ,  $p < .001$ ). Despite the absence of a formal environmental club, students participate in environment-related activities through academic programs and clubs like Geography and Biology. These platforms, although indirect, serve to enhance

environmental awareness. Similar patterns were observed in studies by Akinyemi and Ofem (2022) and Nguyen et al. (2021), which indicate that even partial institutional involvement can foster ecological behaviour among students.

### *The Influence of Socio-cultural Factors and Students' Participation in Environmental Conservation.*

The study's second Hypothesis stated that *Institutional factors have a statistically significant influence on students' participation in environmental conservation activities.* The analysis results in Table 3 show a significant positive relationship between socio-cultural factors and students' participation in environmental conservation. This hypothesis was strongly

supported ( $r = 0.61, p < .001$ ). Students' cultural and religious values appear to play a more decisive role in motivating participation. The emphasis on environmental stewardship in Islamic teachings, such as the concept of khalifa (stewardship), promotes moral responsibility toward nature (Nasr, 2022; Al-Jayyousi, 2023; Saeed & Zubair, 2023). These findings mirror those of Hassan and Musah (2021), who found cultural alignment to be key in environmental behaviour change among African youth.

## DISCUSSION

The correlation results affirm the significance of both institutional and socio-cultural influences on students' environmental conservation behaviour. Socio-cultural determinants exhibited stronger correlations, suggesting that interventions rooted in religious and cultural teachings may be more effective. This is consistent with the Value-Belief-Norm (VBN) theory, which asserts that values and moral obligations shape environmental action (Stern, 2021).

The lack of a formal environmental club may limit structured student engagement. However, the influence of academic and departmental clubs like Geography and Biology still plays a supportive role. A study by Mwenda and Kazimoto (2021) revealed that discipline-specific student organizations could significantly contribute to environmental literacy.

Culturally embedded education, integrating Islamic perspectives on conservation, could provide a meaningful framework for environmental outreach in universities. Such approaches were recommended by Khalid and Nyundo (2021) who argued for the inclusion of religious perspectives in ecological curricula in African universities.

Despite these valuable findings, the study has some limitations. The cross-sectional design captures data at a single point in time, which restricts the ability to draw causal inferences about the relationships between institutional and socio-cultural factors and students' environmental conservation behaviour.

Future studies employing longitudinal or experimental designs could better explore causality. Additionally, the reliance on self-reported data through questionnaires introduces the potential for social desirability and recall biases, which might lead respondents to overstate their conservation participation or positive attitudes. Incorporating observational methods or mixed approaches in future research could help validate these findings and provide deeper insight into students' environmental engagement.

## STUDY CONCLUSION AND RECOMMENDATIONS

This study examined the institutional and socio-cultural determinants of environmental conservation participation among students at the Muslim University of Morogoro (MUM). The findings revealed that while both institutional structures and socio-cultural norms influence students' conservation behaviours, socio-cultural factors especially religious teachings and community values, exerted a stronger impact. These results confirm the need for environmental interventions that are both structurally supported and culturally grounded. Based on these findings, the study offers the following actionable recommendations:

Firstly, Establishment of a Dedicated Environmental Club: Given that the absence of a formal environmental club emerged as a barrier to student engagement, MUM should support the creation of an independent Environmental Club with a clear sustainability mandate. This club should coordinate student conservation activities such as campus tree planting, waste management campaigns, and environmental awareness events.

Secondly, Integration of Islamic Environmental Ethics into Curricula: The strong influence of religious values suggests that MUM has a unique opportunity to operationalize Islamic environmental ethics within both academic and non-academic programs. Environmental courses can incorporate

Qur'anic teachings on stewardship (*khalifah*), balance (*mīzān*), and accountability (*hisāb*) to contextualize sustainability from an Islamic worldview. Additionally, awareness campaigns and Friday sermons (khutbahs) could include environmental themes, reinforcing conservation as a spiritual and moral duty.

Thirdly, Faculty–Religious Leader Collaboration: Interdisciplinary collaboration between academic departments and Islamic scholars is essential. Joint efforts can lead to the development of culturally relevant learning materials, faith-based conservation campaigns, and themed events such as the Green Ramadan project etc. These partnerships would utilize the existing religious authority and student trust to promote sustainable practices.

Fourthly, broadening a Research Scope: Future research should consider longitudinal designs to examine how students' environmental behaviours evolve over time and in response to institutional or policy changes. Furthermore, replicating this study in other universities including public, and secular institutions would help uncover contextual differences and commonalities in environmental participation across Tanzania.

Lastly, Use of Advanced and Mixed-Method Analyses: Employing multiple linear regression analysis in future studies would help identify which institutional and socio-cultural variables most significantly predict conservation behaviours. Complementing survey data with qualitative methods such as interviews, observations, and focus group discussions would provide deeper insights into students' motivations, perceived barriers, and the role of faith and community in shaping conservation behaviours.

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