



From Environmental Knowledge to Sustainable Action: An Anthropological Study of Ecological Citizenship among Students at the Catholic University of Rwanda

Lucien Hakizimana

Catholic University of Rwanda.

***Corresponding Author**

Lucien Hakizimana

E-mail:

abbelucienhak@gmail.com

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Abstract: Environmental degradation and climate change increasingly require citizens who can translate environmental knowledge into responsible and sustainable action. Universities, particularly institutions integrating education, ethics, and faith, have an important role in developing such ecological citizenship. This study examines the relationship between environmental knowledge, values, and sustainable practices among 70 students of the Faculty of Theology at the Catholic University of Rwanda (CUR). It asks: How does environmental knowledge contribute to the development of ecological citizenship and sustainable action among students? The study hypothesizes that strong environmental knowledge, combined with theological and moral values, positively influences students' environmental attitudes and behaviours. An anthropological mixed-methods approach was employed. Data were collected through a structured questionnaire administered to 70 students, complemented by semi-structured interviews and direct observation. Quantitative data were analysed using descriptive statistics, while qualitative information was examined thematically. Findings indicate that 97.1% (68/70) of respondents possess a high level of awareness of major environmental challenges. Furthermore, 94.3% (66/70) consider environmental protection a moral and social responsibility, while 91.4% (64/70) believe that Christian stewardship of creation should influence everyday environmental behaviour. 88.6% (62/70) report regularly adopting sustainable practices such as proper waste management, water conservation, energy saving, and environmental cleanliness. In addition, 92.9% (65/70) express willingness to participate in university and community environmental initiatives. However, the findings reveal a modest gap between individual commitment and sustained collective environmental action. The study concludes that theological education can strengthen ecological citizenship by connecting faith, stewardship, moral responsibility, and practical environmental engagement.

Keywords: Environmental Knowledge, Ecological Citizenship, Sustainable Action, Environmental Anthropology, CUR Students.

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1. INTRODUCTION

Environmental degradation, climate change and biodiversity loss have become major challenges requiring not only technological responses but also socially and ethically responsible citizens. The rationale for examining ecological citizenship among university students lies in understanding how environmental knowledge can be transformed into sustained action. Environmental scholarship demonstrates that pro-environmental behaviour emerges through the interaction of values, norms, knowledge and contextual conditions (Stern, 2000; Kollmuss & Agyeman, 2002). From a sociological perspective, environmental action is shaped by institutions, social norms and collective participation. Anthropological approaches demonstrate that human-nature relationships are embedded in cultural practices and meanings, while theological reflection emphasizes stewardship, solidarity and responsibility for creation. In *Laudato Si'*, Pope Francis presents care for the earth as inseparable from concern for human dignity, social justice and the common good. The problematic, therefore, is not simply the lack of environmental knowledge, but the difficulty of translating awareness and moral concern into consistent individual and collective ecological action.

The Catholic University of Rwanda (CUR), particularly through its Faculty of Theology, provides an important context for addressing this challenge because it brings together academic, ethical and religious formation. Students can become significant environmental actors through participation in environmental initiatives, community activities, advocacy and youth-led innovation. Environmental education is most effective when learners develop the knowledge, values and competencies necessary to participate actively in addressing ecological challenges (UNESCO, 2021). UNESCO's global review emphasizes the importance of integrating environmental concerns into education and developing learning that can contribute to sustainability. Sociologically, collective participation strengthens civic engagement and shared responsibility; anthropologically, environmental action becomes more meaningful when it incorporates local knowledge and cultural realities; and theologically, ecological engagement expresses solidarity and care for the common home (Francis, 2015).

CUR itself provides a practical institutional example through the ecological orientation of more than 30 hectares of university land, including environmental agriculture, ecological fruit production and forest development intended to contribute to carbon reduction and ecological restoration. This initiative can function as a living laboratory where students learn, experiment, innovate and participate in sustainable land management. Strengthening partnerships among the university, students, communities, government institutions and the private sector can further connect

academic knowledge with practical environmental solutions. The proposed pathway is therefore "I know → I care → I participate → I lead," moving students from environmental awareness to moral commitment, from commitment to collective participation, and ultimately toward ecological leadership capable of contributing to Rwanda's sustainable development.

2. METHODOLOGY

This study employed an anthropological mixed-methods research design to examine the relationship between environmental knowledge, moral and theological values, ecological citizenship, and sustainable action among students at the Catholic University of Rwanda (CUR). The study population consisted of 70 students from the Faculty of Theology. A purposive sampling approach was used because the study specifically sought to understand how theological formation may influence students' perceptions and practices concerning environmental responsibility. Quantitative data were collected using a structured questionnaire covering environmental knowledge, perceptions, moral responsibility, Christian stewardship, everyday environmental practices, and willingness to participate in collective environmental initiatives. The quantitative data were analyzed using descriptive statistics, particularly frequencies and percentages.

To complement the quantitative findings, semi-structured interviews were conducted to obtain deeper information concerning students' understanding of environmental responsibility, the influence of theological education and Christian values, and factors facilitating or constraining sustainable practices. Direct observation was also used to examine environmental practices and the institutional context in which students study and interact. Qualitative information was analysed thematically, focusing on environmental meanings, social norms, cultural practices, stewardship, participation, and ecological citizenship. The interpretation was informed by environmental sociology (Dunlap & Catton, 1979; Stern, 2000), environmental anthropology (Ingold, 2000; Milton, 1996), and theological perspectives on care for creation (Francis, 2015).

Several limitations should be acknowledged. First, the study involved only one group of students from the Faculty of Theology, which limits the generalizability of the findings to students from other faculties at CUR. Second, the relatively small sample of 70 respondents may not fully capture the diversity of environmental perceptions and practices across the university. Third, the reliance on self-reported data may have introduced social-desirability bias, particularly because environmental responsibility was examined within a theological and moral context. Fourth, the cross-sectional nature of the study provides a snapshot of students' perceptions and practices and cannot establish long-term

behavioural change or causal relationships. Finally, the study did not systematically include lecturers, administrators, surrounding communities, government representatives, or other stakeholders. Future research should therefore employ larger and more diverse samples, comparative studies across faculties and universities, and longitudinal approaches to assess whether environmental knowledge and theological formation produce sustained ecological action.

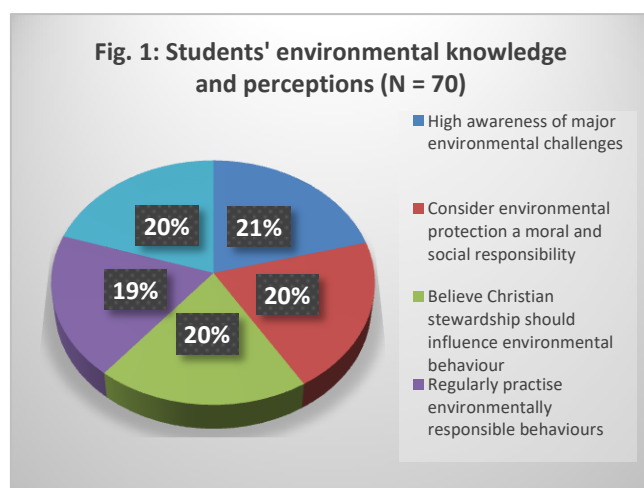
3. FROM ENVIRONMENTAL KNOWLEDGE TO SUSTAINABLE ACTION

3.1. Environmental Knowledge and Perceptions among Students

Environmental knowledge constitutes an important foundation for understanding how individuals interpret ecological problems and construct relationships with the natural world. Among the 70 students surveyed at the Faculty of Theology of the Catholic University of Rwanda (CUR), the findings indicate a very high level of awareness of major environmental challenges. Specifically, 97.1% (68/70) reported a high level of awareness of issues such as climate change, pollution, waste generation, deforestation, biodiversity loss and land degradation. This finding is consistent with the growing recognition that climate change and ecosystem degradation are interconnected global challenges requiring informed social responses (IPCC, 2023). From a sociological perspective, environmental knowledge is also shaped by social institutions and collective patterns of meaning, rather than being simply an individual cognitive achievement (Dunlap & Catton, 1979). Anthropologically, people's understanding of environmental problems is embedded within cultural practices and locally constructed relationships between humans and their surroundings (Ingold, 2000). Theologically, the ecological crisis can be interpreted through the principle of responsible stewardship of creation, which connects knowledge of environmental degradation with ethical responsibility (Francis, 2015).

The sources through which students acquire environmental knowledge also demonstrate the importance of socialization and institutional interaction. 94.3% (66/70) of respondents associated environmental responsibility with moral and social learning, suggesting that environmental consciousness is not produced by formal education alone. Family experiences, university education, Church teaching, media, social networks and community activities constitute interconnected channels through which environmental meanings are transmitted and reinforced. Sociological research emphasizes that environmental attitudes develop through social norms, institutions and processes of socialization (Dunlap & Catton, 1979), while anthropological approaches show that ecological knowledge is frequently transmitted through everyday cultural practices and community experience (Milton, 1996). Environmental education can consequently transform scientific information into values and competencies for sustainable living (UNESCO, 2021). In the theological context, the Catholic ecological tradition presents care for creation as an integral dimension of human responsibility and social ethics (Francis, 2015). The strong awareness observed among CUR students may therefore reflect the combined influence of academic formation, family and community experiences, religious teaching, and contemporary communication technologies.

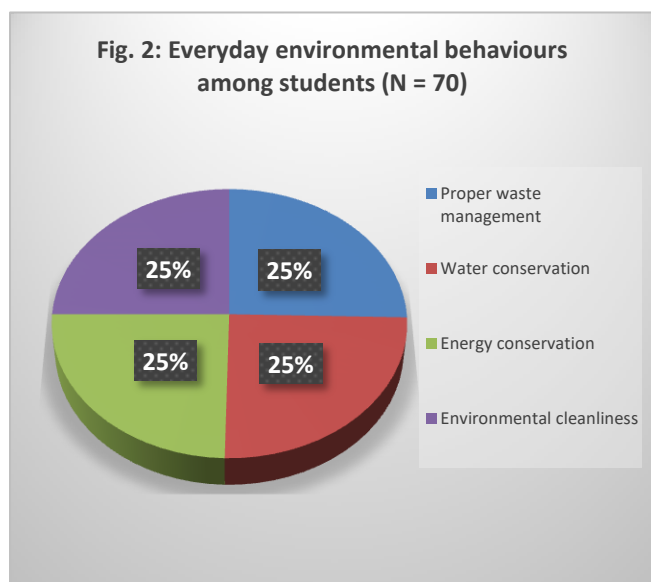
Students' perceptions further reveal a predominantly relational understanding of the human–nature relationship. 94.3% (66/70) viewed environmental protection as a moral and social responsibility, while 91.4% (64/70) believed that Christian stewardship of creation should influence everyday environmental behaviour. These findings suggest that students do not perceive the environment merely as a physical resource but increasingly understand it as a domain involving ethical obligations toward other people, communities and future generations. This perspective challenges the purely utilitarian separation between society and nature identified in classical sociological analyses of the human–environment relationship (Dunlap & Catton, 1979). Anthropologically, it corresponds to perspectives that understand humans as embedded within ecological relationships rather than existing outside nature (Ingold, 2000). The environmental sciences similarly emphasize the interdependence of human well-being and ecosystem integrity (IPCC, 2023), while Catholic ecological theology frames creation as a shared home requiring care, solidarity and intergenerational responsibility (Francis, 2015). Nevertheless, the relatively high level of knowledge and positive perception should not automatically be interpreted as evidence of consistent ecological practice. The finding that 88.6% (62/70) reported regular sustainable practices, compared with 97.1% (68/70) demonstrating high environmental awareness, indicates an emerging knowledge–practice difference. This difference provides an



important anthropological question: how can environmental knowledge and moral conviction be transformed into sustained individual and collective ecological action?

3.2. From Environmental Knowledge to Environmental Behaviour

The transition from environmental knowledge to environmental behaviour is a central dimension of ecological citizenship because knowledge becomes socially meaningful when it is translated into everyday practices. Among the 70 students surveyed at the Faculty of Theology of the Catholic University of Rwanda (CUR), the findings demonstrate a strong relationship between environmental awareness and practical action. 95.7% (67/70) reported regularly practising proper waste management, 94.3% (66/70) regularly conserved water, 92.9% (65/70) regularly saved energy, and 94.3% (66/70) regularly maintained environmental cleanliness. These results indicate that environmental consciousness among CUR students is substantially reflected in their daily practices. Environmental research shows that pro-environmental behaviour is influenced by knowledge, values, personal norms and contextual conditions (Stern, 2000, Hakizimana, L. et al. 2026).). Similarly, Kollmuss and Agyeman (2002) demonstrate that knowledge does not independently determine behaviour. Sociologically, environmental action is embedded in social routines and institutional structures (Giddens, 1984), while anthropological approaches emphasize that environmental practices are learned through culturally established ways of living (Milton, 1996).



Proper waste management recorded the highest level of reported environmental behaviour, with 95.7% (67/70) of respondents regularly engaging in responsible waste practices. This finding suggests that waste disposal, avoidance of littering and responsible management of refuse have become important expressions of environmental responsibility among students. From an environmental

perspective, responsible waste practices contribute to reducing pollution and protecting ecosystems. Sociologically, waste management is also influenced by social expectations concerning cleanliness and acceptable public behaviour (Giddens, 1984). Anthropologically, concepts of waste, disorder and cleanliness are culturally constructed and transmitted through socialization (Douglas, 1966). Theologically, responsible treatment of the environment can be understood as an expression of stewardship and respect for creation (Francis, 2015).

Water conservation was reported by 94.3% (66/70) of students. This high proportion indicates that students recognize water as a valuable resource requiring responsible use. Conservation practices can include avoiding unnecessary water consumption and using water more efficiently in everyday activities. Environmental scholarship emphasizes that sustainable resource management is essential for ecological resilience and human well-being (IPCC, 2023). Sociologically, water-use practices are influenced by household routines, institutional expectations and social norms (Shove, 2010). Anthropological perspectives further show that relationships with natural resources are shaped by cultural experiences and community practices (Ingold, 2000). Catholic ecological thought similarly emphasizes responsible use of natural resources as part of humanity's obligation to care for the common home (Francis, 2015).

Energy conservation was reported by 92.9% (65/70), making it the lowest of the four indicators, although it still represents a very high level of participation. Students' reported energy-saving practices indicate awareness of the environmental and economic consequences of unnecessary consumption. However, energy behaviour is strongly influenced by available technologies, institutional infrastructure and established routines. Shove (2010) argues that sustainable behaviour cannot be explained solely through individual attitudes because material conditions and social practices also shape consumption. From a sociological perspective, institutions influence everyday patterns of action (Giddens, 1984), while anthropology emphasizes the cultural meanings associated with consumption (Milton, 1996). Theological ethics encourages moderation and responsible use of material resources as expressions of stewardship (Francis, 2015).

Environmental cleanliness was reported by 94.3% (66/70) of respondents. Maintaining clean surroundings demonstrates that environmental responsibility is understood not only as protection of distant ecosystems but also as care for immediate living spaces. Cleanliness contributes to public health, dignity and community well-being. Douglas (1966) shows that perceptions of cleanliness are deeply connected to cultural understandings of order and disorder, while anthropological research situates environmental practices

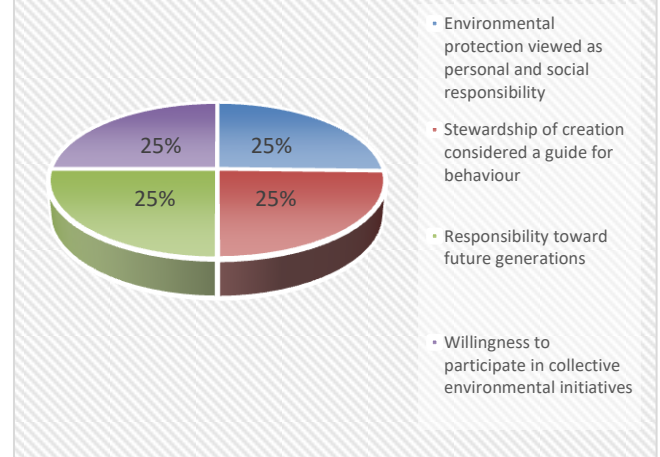
within broader systems of social meaning (Milton, 1996). Sociologically, repeated behaviours become stronger when supported by collective expectations and institutional norms (Giddens, 1984). Theologically, caring for one's surroundings reflects the broader responsibility to protect creation (Francis, 2015).

The findings nevertheless reveal a modest knowledge–action gap. While students demonstrated a high level of environmental awareness, their reported environmental behaviours were slightly lower across the different behavioural indicators. This relatively small difference demonstrates that environmental knowledge does not automatically translate into identical levels of practical action. Social norms, economic circumstances, cultural habits, institutional facilities and opportunities for participation can either facilitate or constrain environmental behaviour (Kollmuss & Agyeman, 2002; Stern, 2000). CUR can therefore strengthen the transition from knowledge to sustained action by providing supportive infrastructure and opportunities for collective environmental engagement. In this sense, students are moving from “I know” to “I do,” while the next stage of ecological citizenship requires movement toward “I participate” and “I lead.”

3.3. Ecological Citizenship: An Anthropological Perspective

Ecological citizenship extends environmental responsibility beyond individual awareness to include obligations toward other people, communities, nature and future generations. From an anthropological perspective, citizenship is not limited to formal political participation; it is also expressed through everyday practices, cultural values, social relationships and collective responsibilities. Among the 70 students surveyed at the Faculty of Theology of the Catholic University of Rwanda (CUR), 94.3% (66/70) considered environmental protection a moral and social responsibility, while 91.4% (64/70) believed that Christian stewardship of creation should influence their everyday behaviour. These findings suggest that students understand ecological responsibility as both a personal commitment and a social obligation. Environmental scholarship increasingly conceptualizes sustainability as requiring responsible relationships between human societies and ecological systems (Dobson, 2003; Stern, 2000). Sociologically, citizenship develops through norms, institutions and relationships that connect individuals to collective life (Marshall, 1950). Anthropologically, environmental responsibility is embedded in culturally constructed relationships between people and their surroundings (Milton, 1996). Theologically, *Laudato Si'* presents care for creation as inseparable from solidarity, justice and responsibility for the common good (Francis, 2015).

Fig. 3: Dimensions of ecological citizenship among CUR students (N = 70)



The students' understanding of responsibility toward nature, society and future generations reveals a multidimensional conception of ecological citizenship. 92.9% (65/70) expressed the view that environmental responsibility should extend to future generations, indicating an awareness that present environmental decisions have consequences beyond the immediate community. Such intergenerational thinking is fundamental to sustainable development because ecological citizenship requires individuals to consider the long-term consequences of resource use and environmental degradation (WCED, 1987). Sociologically, responsibility toward future generations reflects the capacity of social institutions and communities to transmit obligations across generations (Beck, 1992). Anthropologically, intergenerational responsibility is strengthened when ecological knowledge and values are incorporated into cultural memory and social practices (Ingold, 2000). From a theological perspective, stewardship implies that creation is received as a gift that must be preserved and transmitted rather than exhausted by one generation (Francis, 2015). The findings therefore suggest that CUR students increasingly perceive environmental responsibility as an obligation extending beyond personal interests toward the continuity and well-being of human and non-human life.

Cultural values, social norms and solidarity are important mechanisms through which ecological citizenship becomes established within a community. Environmental responsibility is rarely produced by individual conviction alone; it is reinforced when families, universities, religious communities, peer groups and wider society communicate expectations concerning appropriate relationships with nature. The high level of moral commitment among CUR students—94.3% (66/70)—suggests that environmental responsibility is connected to broader systems of values and social meaning. Environmental behaviour is influenced by personal norms and collective expectations (Stern, 2000, Hakizimana, L. et al. 2024).), while sociological theory

emphasizes that social practices become reproduced when they are supported by shared norms and institutional structures (Giddens, 1984). Anthropologically, cultural values provide frameworks through which communities interpret nature, responsibility and human–environment relationships (Milton, 1996). Catholic ecological thought similarly links environmental care with solidarity, emphasizing that ecological problems affect communities unequally and therefore require concern for vulnerable populations and the common good (Francis, 2015). Ecological citizenship at CUR can consequently be understood as a socially embedded moral practice rather than simply an individual environmental attitude.

Students also emerge as potential environmental actors within the university and wider community. The finding that 92.9% (65/70) expressed willingness to participate in university and community environmental initiatives indicates a strong foundation for collective ecological engagement. This willingness is important because ecological citizenship requires movement from private environmental behaviour toward participation in activities that transform social and institutional conditions. Dobson (2003) argues that ecological citizenship involves responsibilities extending beyond conventional political rights and into everyday contributions to environmental sustainability. Sociologically, collective participation is strengthened by social networks, trust and opportunities for civic engagement (Putnam, 2000). Anthropologically, participation enables individuals to transform shared values into collective practices and environmental identities (Milton, 1996). Theologically, solidarity calls individuals and communities to act together in protecting the common home and promoting ecological justice (Francis, 2015). CUR students can therefore become significant environmental actors through ecological clubs, community outreach, awareness campaigns, tree planting, waste-management initiatives and partnerships with local institutions.

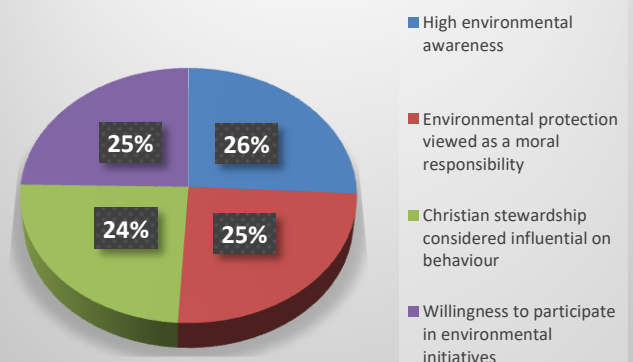
Overall, the findings indicate that ecological citizenship among CUR students is developing across personal, social and collective dimensions. The combination of 94.3% (66/70) recognizing environmental protection as a moral and social responsibility and 92.9% (65/70) willing to participate in collective initiatives demonstrates considerable potential for transforming environmental consciousness into civic engagement. Nevertheless, willingness must be supported by institutional structures, opportunities for participation and sustained community partnerships. Environmental citizenship becomes effective when knowledge, values, social norms and collective action reinforce one another (Dobson, 2003; Stern, 2000). From an anthropological perspective, CUR therefore provides a setting in which ecological citizenship can become part of students' emerging

identities and social practices (Ingold, 2000). From theological education, stewardship can provide the moral foundation for this transformation by connecting faith with concrete responsibility for creation (Francis, 2015). The movement is consequently from individual responsibility to social solidarity and from social solidarity to collective ecological action, positioning students not merely as recipients of environmental education but as active environmental citizens within the university and wider Rwandan community.

3.4. Education, Religion and the Formation of Ecological Values

The Catholic University of Rwanda (CUR) provides an important institutional environment for examining how education, religion and environmental responsibility interact in the formation of ecological values. As a university integrating academic formation with ethical and theological education, CUR has the potential to develop environmental consciousness not only through scientific knowledge but also through reflection on responsibility, solidarity and the common good. Among the 70 students surveyed, 97.1% (68/70) demonstrated a high level of awareness of major environmental challenges, while 94.3% (66/70) considered environmental protection a moral and social responsibility. These findings suggest that environmental consciousness among students is connected to both intellectual formation and moral interpretation. Environmental education can develop knowledge, competencies and values necessary for sustainability (UNESCO, 2021), while sociological perspectives emphasize the role of educational institutions in transmitting social norms and values (Durkheim, 1956). Anthropologically, universities constitute spaces where cultural meanings and practices can be reproduced or transformed (Bourdieu, 1977). Theologically, Catholic education situates human formation within responsibility toward creation and the common good (Francis, 2015).

Fig. 4: Education, religious values and ecological responsibility among CUR students (N = 70)



The contribution of theological and ethical education becomes particularly visible in students' interpretation of environmental responsibility. 91.4% (64/70) indicated that Christian stewardship of creation should influence their everyday environmental behaviour. This finding suggests that environmental issues are not perceived exclusively as scientific or technical problems but also as questions of morality and human responsibility. Environmental scholars increasingly emphasize that effective sustainability requires values capable of motivating responsible action (Stern, 2000). Sociologically, moral education contributes to the internalization of norms that guide individual behaviour and social responsibility (Durkheim, 1956). Anthropologically, religious traditions provide symbolic frameworks through which people interpret their relationship with nature, society and the wider world (Geertz, 1973). Within Catholic theology, stewardship implies that creation is entrusted to humanity for responsible care rather than unlimited exploitation, linking ecological responsibility with justice, solidarity and concern for vulnerable populations (Francis, 2015). The high proportion of students affirming stewardship therefore indicates that theological education can provide an ethical vocabulary through which environmental knowledge acquires practical and moral significance.

The relationship between faith, stewardship of creation and ecological citizenship is especially important in understanding the CUR context. Ecological citizenship requires individuals to recognize that environmental responsibilities extend beyond personal interests to communities, future generations and the natural world. The finding that 94.3% (66/70) of respondents regard environmental protection as a moral and social responsibility demonstrates that students increasingly connect ecological care with obligations toward others. Environmental citizenship scholarship similarly emphasizes duties, participation and responsibility rather than environmental concern alone (Dobson, 2003). Sociologically, shared moral norms can strengthen collective responsibility by transforming individual convictions into socially recognized expectations (Giddens, 1984). Anthropologically, stewardship can be understood as a cultural and symbolic framework through which human–nature relationships are interpreted and practised (Ingold, 2000). Catholic ecological theology reinforces this relational understanding by presenting creation as a common home in which human beings are interconnected with one another and with the natural world (Francis, 2015). Faith therefore has the potential to transform ecological citizenship from a purely behavioural concept into a moral commitment grounded in solidarity and responsibility.

The educational challenge, however, is to move students from awareness to action. Although 97.1% (68/70) reported

high environmental awareness, 92.9% (65/70) expressed willingness to participate in university and community environmental initiatives. This difference indicates that awareness is strong, but opportunities for organized participation remain important for converting knowledge and values into sustained ecological engagement. Transformative education emphasizes active learning, critical reflection and participation rather than the simple transmission of information (Mezirow, 1997). Sociologically, educational institutions can reshape practices when new values are reinforced through collective activities and institutional structures (Giddens, 1984). Anthropologically, participation allows learners to embody knowledge through social practices and to develop new forms of environmental identity (Ingold, 2000). Theologically, formation becomes transformative when faith is expressed through concrete care for creation and service to the common good (Francis, 2015). CUR can therefore strengthen ecological formation through environmental clubs, community-based projects, ecological campaigns, theological reflection on *Laudato Si'*, tree planting, waste-management initiatives and interdisciplinary environmental activities.

Overall, the findings demonstrate that education and religion can function together as powerful mechanisms for ecological value formation. The combination of 97.1% (68/70) high environmental awareness, 94.3% (66/70) recognition of moral responsibility, 91.4% (64/70) affirmation of Christian stewardship and 92.9% (65/70) willingness to participate provides evidence of a strong foundation for ecological citizenship among CUR students. Environmental education provides knowledge and practical competencies (UNESCO, 2021), sociology explains how institutional and moral structures shape collective behaviour (Durkheim, 1956), anthropology highlights the cultural processes through which ecological meanings are constructed (Geertz, 1973), and theology provides a framework of stewardship, solidarity and responsibility for creation (Francis, 2015). CUR therefore has the potential to move beyond environmental awareness toward transformative ecological formation, in which students progress from “I know” to “I care,” from “I care” to “I participate,” and ultimately from “I participate” to “I lead.”

3.5. From Ecological Citizenship to Sustainable Action

Ecological citizenship reaches its practical significance when environmental awareness and moral responsibility are transformed into sustained individual and collective action. Among the 70 students surveyed at the Faculty of Theology of the Catholic University of Rwanda (CUR), 92.9% (65/70) expressed willingness to participate in university and community environmental initiatives. This finding provides an important basis for moving beyond personal environmental responsibility toward active ecological

citizenship. Environmental sustainability requires citizens who are capable not only of understanding ecological challenges but also of participating in solutions (Stern, 2000; Dobson, 2003). From a sociological perspective, collective participation develops when individuals are connected through social networks, institutions and shared norms (Putnam, 2000). Anthropologically, participation transforms environmental values into collective practices and locally meaningful forms of action (Milton, 1996). Theologically, ecological action is an expression of stewardship, solidarity and responsibility for the common home (Francis, 2015). CUR students therefore constitute an important potential resource for translating ecological citizenship into practical environmental transformation within the university and surrounding communities.

Table 1. Students' potential for sustainable ecological action (N = 70)

Category	Percentage	Frequency
Willingness to participate in university environmental initiatives	92.90%	65/70
Willingness to participate in community environmental activities	91.40%	64/70
Willingness to advocate for environmental protection	90.00%	63/70
Willingness to take leadership in environmental initiatives	88.60%	62/70

The findings indicate considerable potential for youth-led environmental innovation, advocacy and community engagement. The fact that 90.0% (63/70) expressed willingness to advocate for environmental protection suggests that students can move beyond being beneficiaries of environmental education to becoming communicators and agents of ecological change. Young people can contribute through environmental campaigns, ecological clubs, social-media advocacy, community education, tree planting, waste-management initiatives, sustainable agriculture and locally appropriate technological innovations. Environmental education becomes more transformative when learners acquire the capacity to participate in solving real environmental problems rather than simply receiving information (UNESCO, 2021). Sociologically, youth participation can generate new forms of collective identity and civic engagement (Putnam, 2000). Anthropologically, young environmental actors can reinterpret existing cultural practices and introduce new ecological meanings within their communities (Ingold, 2000). Theologically, youth engagement can express an ethic of stewardship in which care for creation becomes a concrete form of service to society and future generations (Francis, 2015).

An important institutional example is provided by CUR itself, which has given environmental sustainability a practical dimension through the ecological orientation of a substantial portion of its land—more than 30 hectares—toward environmental agriculture, ecological fruit production and forest development. This initiative demonstrates how ecological citizenship can be embodied through institutional land-use decisions rather than remaining an academic concept. The development of ecological agriculture can contribute to sustainable food systems, biodiversity conservation and responsible land management, while forest development can contribute to carbon sequestration and ecosystem restoration (FAO, 2022). From a sociological perspective, institutional practices can establish environmental norms that influence the behaviour of students and staff (Giddens, 1984). Anthropologically, agricultural landscapes represent relationships between people, culture and nature and can become spaces for transmitting ecological knowledge through practice (Milton, 1996). Theologically, caring for land and promoting ecological integrity correspond to the principle that creation should be cultivated and protected responsibly (Francis, 2015). CUR's experience can therefore serve as a living laboratory in which students observe, study and participate in sustainable environmental practices.

For ecological citizenship to produce wider sustainable outcomes, CUR should strengthen partnerships among the university, students, local communities, government institutions and the private sector. Such partnerships can connect academic knowledge with community environmental needs, public policy, technological innovation and financial resources. Environmental problems are complex and cannot be addressed effectively by universities acting in isolation (IPCC, 2023). Sociologically, partnerships create networks of cooperation and social capital that facilitate collective action (Putnam, 2000). Anthropologically, collaboration with communities allows environmental interventions to incorporate local knowledge, cultural practices and community priorities (Ingold, 2000). Theologically, partnership reflects solidarity and the pursuit of the common good, particularly where environmental problems disproportionately affect vulnerable communities (Francis, 2015). CUR could consequently establish structured cooperation with Huye District and other public authorities, environmental organizations, private companies, community groups and development partners to create opportunities for student research, innovation, internships, environmental campaigns and community-based ecological projects.

A CUR Youth Ecological Citizenship Action Framework could provide an institutional mechanism for organizing these initiatives and aligning them with Rwanda Vision 2050, the National Strategy for Transformation 2 (NST2)

and the Sustainable Development Goals (SDGs). The framework could organize student engagement around four progressive stages: “I know → I care → I participate → I lead.” The first stage develops environmental knowledge; the second connects knowledge with ethical and moral concern; the third converts concern into participation in university and community initiatives; and the fourth develops student leadership, innovation and advocacy. Such progression corresponds with transformative approaches to environmental education that seek to connect knowledge, values, competencies and action (UNESCO, 2021). Sociologically, institutionalizing these stages can create enduring norms of ecological participation (Giddens, 1984). Anthropologically, it can contribute to the formation of an ecological identity grounded in local experience and collective responsibility (Milton, 1996). Theologically, it provides a practical pathway through which stewardship of creation becomes lived discipleship and service to the common good (Francis, 2015). In this perspective, CUR can position students not simply as environmentally aware graduates but as ecological citizens, innovators and leaders contributing to Rwanda's long-term sustainable development.

4. CONCLUSION AND RECOMMENDATIONS

This study examined the relationship between environmental knowledge, moral values, theological formation and ecological citizenship among 70 students of the Faculty of Theology at the Catholic University of Rwanda (CUR). The findings demonstrate a strong level of environmental consciousness and a positive orientation toward sustainable behaviour. Students generally recognize environmental protection as a moral and social responsibility and associate Christian stewardship with practical care for creation. Their reported sustainable practices and willingness to participate in university and community initiatives indicate that environmental knowledge can contribute to ecological citizenship. Nevertheless, the findings reveal a modest gap between individual environmental commitment and sustained collective action. This suggests that knowledge and values need to be supported by institutional structures, practical opportunities, social norms and collective leadership. CUR's ecological orientation of more than 30 hectares of land toward environmental agriculture, ecological fruit production and forest development provides a valuable example of transforming environmental values into institutional practice. The study therefore proposes a progressive pathway from “I know” → “I care” → “I participate” → “I lead.”

Recommendations: CUR should establish a CUR Youth Ecological Citizenship Action Framework aligned with Rwanda Vision 2050, NST2 and the SDGs. Environmental education and theological reflection on stewardship should

be integrated more systematically across student formation. The University should strengthen student-led environmental clubs and practical activities involving waste management, water conservation, energy efficiency, ecological agriculture, forest restoration and community outreach. The University's more-than-30-hectare ecological initiative should serve as a living laboratory for research, innovation and experiential learning. Finally, CUR should strengthen partnerships with communities, government, private-sector actors and environmental organizations to support youth-led ecological innovation, advocacy and sustainable community development.

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