International Journal of Research Studies in Education
2026 Volume 15 Number 9, 93-106

Environmental awareness among the stakeholders of Central Bicol State University of Agriculture – Pasacao

Basco, Shine ✉
Central Bicol State University of Agriculture (Pasacao Campus), Philippines (shine.basco@cbsua.edu.ph)
Ebion, Loveliza
Olavides, Ahren Deszerie
Creanza, Vanesa
Salditos, Melchor
Amor, Sarah
Moron, Bernyl
Nolasco, Michael

ISSN: 2243-7703
Online ISSN: 2243-7711

OPEN ACCESS

Received: 24 April 2026 **Revised**: 1 May 2026 **Accepted**: 4 May 2026
Available Online: 5 May 2026 **DOI**: 10.5861/ijrse.2026.26138

Abstract

This study employed a quantitative, descriptive-correlational-evaluative research design to measure the environmental awareness of 342 stakeholders (students, teaching, and non-teaching staff) at the Central Bicol State University of Agriculture (CBSUA)-Pasacao Campus. The research aimed to determine the respondents' socio-demographic profile, assess their level of awareness across seven key environmental principles (interdependence, change, diversity and stability, finiteness of resources, materials cycle, balance of nature, and stewardship), test for significant differences and relationships between variables, and propose a corresponding environmental program. Data were collected using a structured survey questionnaire with a four-point Likert scale and analyzed using Mean, ANOVA, and the Chi-square test. Key findings indicated that the academic community collectively demonstrates a highly aware level of environmental consciousness across the seven environmental principles. However, a significant difference in awareness was found among the stakeholder groups and across the different environmental principles. Teaching staff registered the highest level of awareness, while students generally recorded the lowest mean scores. Furthermore, a significant relationship was identified between the age and gender of students and the educational attainment of non-teaching staff with their level of environmental awareness. The study concluded that while stakeholders show a positive attitude toward environmental issues, the level of 7 awareness is not uniform across all groups. The major recommendation is to implement a comprehensive environmental campaign to further educate, engage, and empower the entire academic community toward active participation in environmental preservation.

Keywords: interdependence, finiteness of resources, change, diversity and stability, stewardship, materials cycle, balance of nature

Environmental awareness among the stakeholders of Central Bicol State University of Agriculture – Pasacao

1. Introduction

Environment refers to everything that surround us both biotic and abiotic components. This includes the air we breathe, the water we drink and the land we live on. Environment is vital as it provides all the essential resources for life. It also offers numerous ecosystem services that are significant for human well-being, like climate regulation, nutrient cycling and source of income. However, nowadays, environmental challenges such as pollution, climate change, resource depletion and threat to human health. With this current situation, environmental awareness plays an important role in mitigating and lessen environmental impacts to the environment itself. Environmental awareness means understanding that for the Earth to thrive and survive, it needs to be protected being knowledgeable about the environment. It states the set of principles, opinions, and morals that assist us in contributing to the well-being of the natural environment thus analyzing and understanding the problems associated with it. In the past few years, it has been observed that there were too many negative consequences on the environment due to various natural causes and human activities. It had impacts on the natural world and biodiversity and led to the deprivation of quality of essential elements like air, water, and soil. There has been a significant indication of human activities that have contributed majorly to this hazard (O'Regan, 2023).

The Philippines is one of the countries that are facing environmental challenges and issues. Scenarios like floods, due to heavy rain and poor solid waste. disposal, continuing destruction of country's forests, loss of biodiversity, air and water pollutions, and climate change concerns (Cruz & Tantengco, 2017). Humans continue to engage environmental damage behaviors at the individual, corporate, governmental, and societal levels. These behaviors contributed to the creation of several environmental problems, which may expose serious threats to the health of humans and all living species (Sundas et al., 2024). While it is thought that the main source of many environmental problems is irresponsible behaviors of people on the environment, it is important that humans have awareness of environmental problems. It is a fact that human beings need to raise awareness of environmental problems as a result of necessary trainings (Pardo, 2021).

As higher education institutions serve as the primary engines of societal progress and intellectual development, they possess a unique responsibility to lead the charge in fostering comprehensive environmental awareness. These institutions are increasingly integrating sustainability into their core curricula and campus operations, recognizing that the environmental literacy of students directly influences future policy and ecological health. Educators can better connect classroom lessons to real-world action by making the university campus a hands-on environment for sustainable living. Many universities are now aligning their teaching methods with the United Nations' Sustainable Development Goals to ensure students are prepared for global challenges (Leal Filho, 2019).

This study connects to Sustainable Development Goals (SDGs) of 13th and 17th. SDG 13, which refers to climate action, aims to improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction, and early warning. This target should be implemented based on the understanding of climate change awareness among various groups of societies (Hwang et al., 2021). Additionally, through the environmental awareness, the sustainable Development Goal (SDG) 17 can strengthen and implement. In particular, it calls for investing in the global partnership for realizing sustainable development all over the world (Maltais et al., 2018).

1.1 Objective of the Study

Conducting this study is essential to understand the current environmental awareness at CBSUA Pasacao Campus, enabling the development of targeted programs to foster environmental responsibility among

stakeholders in this agricultural and coastal setting. This study informed effective strategies for promoting sustainability and contributing to environmental well-being within the university. Thus, this study was conducted to generally measure the environmental awareness of the stakeholders (students, teaching and non-teaching) of Central Bicol State University of Agriculture-Pasacao Campus. Specifically, the study identifies the socio-demographic attributes of respondents, such as age, gender, educational attainment, and economic status, and determines their level of awareness across seven key environmental themes: interdependence, change, diversity and stability, finiteness of resources, materials cycle, balance of nature, and stewardship. Furthermore, it analyzes significant differences in awareness levels among various stakeholder groups and aspects, tests the correlation between socio-demographic profiles and environmental knowledge, and ultimately proposes actionable programs to enhance environmental awareness across the campus.

1.2 Significance of the Study

This study provides critical insights that benefit stakeholders at the Central Bicol State University of Agriculture-Pasacao Campus by fostering a data-driven approach to sustainability. For students and teaching staff, the findings highlight specific knowledge gaps, enabling the refinement of curricula and pedagogical methods to enhance environmental literacy and professional development. Non-teaching personnel and campus administrators can leverage the results to optimize operational efficiency such as waste and energy management and formulate comprehensive, campus-wide sustainability plans that strengthen the university's institutional reputation. Furthermore, the Deans and the University as a whole can use this baseline data to strategically align departmental goals and allocate resources toward impactful environmental interventions. Ultimately, the research empowers respondents to adopt pro-environmental behaviors while serving as a vital reference for future researchers aiming to expand upon developmental studies in similar ecological and academic contexts.

1.3 Scope and Limitations of the Study

The study focused on the level of environmental awareness of the stakeholders of CBSUA-Pasacao with 342 as the sample population size apportioned to teaching, non-teaching, and students with 8, 7 and 327 populations, respectively, excluding alumni and parents of Central Bicol State University of Agriculture- Pasacao Campus. The area of study was limited in the Pasacao Campus of Central Bicol State University of Agriculture and was limited to addressing the objectives of the study. The study was conducted from October to November 2025 at Central Bicol State University of Agriculture-Pasacao Campus, Sta. Rosa Del Norte, Pasacao, Camarines Sur.

1.4 Theoretical Framework

Ajzen's Theory of Planned Behavior and Stern's Value-Belief-Norm (VBN) Theory are both used to explain the factors influencing pro-environmental behavior and awareness among stakeholders. Ajzen's theory focuses on the immediate psychological drivers of behavior. It suggests that a person's attitude toward a specific behavior, their subjective norms, and their perceived behavioral control (how easy or difficult they believe the action is) collectively predict their intention to act. Being aware of the environment positively affects a person's attitudes and perceived control, thus leading to a statistically significant link to environmental awareness. In contrast, Stern's VBN Theory provides a broader, more values-based framework. It suggests a causal chain beginning with a person's fundamental values that influence their beliefs about the consequences of human actions on the environment. These beliefs, in turn, activate a personal norm or a sense of moral obligation to act. As "Environmental knowledge increases awareness, leading to positive beliefs and feelings about environmental issues and plans to engage in environmentally friendly actions." The relationship is that both theories offer a theoretical foundation for understanding the different drivers of environmental awareness and action, with Ajzen's focusing on the more immediate psychological predictors and Stem's on the deeper, values-driven motivations.

On the other hand, Kolb's Experiential Learning Theory was used to explain how does proposed program affects the level environmental awareness of the stakeholders. This posits that knowledge is created through the

transformation of experience. By engaging in the proposed tree planting activity, graduating students move through a cycle of concrete action and reflective observation. This hands-on involvement allows them to internalize environmental issues, shifting from abstract concepts to practical understanding. Consequently, the physical experience of planting trees fosters a deeper personal connection to nature, significantly elevating their environmental awareness and reinforcing a long-term commitment to sustainable ethical choices.

2. Methodology

This chapter presents the detailed information of the methods done in the study, such as research design, research method, data gathering procedure and statistical treatment of data.

Research Design - The researchers used quantitative research design to determine the environmental awareness among stakeholders at Central Bicol State University of Agriculture-Pasacao. According to Bhandari (2023), quantitative research is the process of collecting and analyzing numerical data. It can be used to find patterns and averages, make predictions, test causal relationships, and generalize results to wider populations.

Research Method - A descriptive-correlational-evaluative method was used in the study. A structured questionnaire was used in establishing to determine the level of environmental awareness of the respondents. The instrument was exhibited in the local setting by translating it to Filipino to suit the level of understanding of the respondents.

Ethical Considerations - The researcher rigorously followed ethical guidelines, prioritizing the respect of all respondents throughout the study. Before the survey, each learner received a comprehensive informed consent form explaining the research's purpose, the voluntary nature of their participation, and their right to withdraw at any point without negative consequences. Learners were guaranteed that their information would be kept confidential and used solely for academic purposes. Strict measures were implemented to safeguard personally identifiable data, maintaining anonymity and protects from any unauthorized access. Moreover, learners were furnished with the researchers contact details for any inquiries or apprehensions regarding the study's outcomes.

Population and Sampling Design - The respondents of the study were the stakeholders of the Central Bicol State University of Agriculture-Pasacao campus namely: teaching, non-teaching, and students a with a total population of 2,318. Using the Slovin's Formula, the sample size of 342 respondents was determined based on Slovin's formula to teaching, non-teaching, students with 8, 7, 327 respondents respectively. This study was employed Stratified Random Sampling to ensure representation across students, teaching and non-teaching. This is a sampling which involves choosing some group of items from the population based on classification and random selection.

Data Gathering Procedure - The data were gathered from the respondents through structured survey questionnaire using a four-point Likert scale (1932) cited by Joshi et al. (2015), described as Highly Aware (4), Moderately Aware (3), Aware (2), and Not Aware (1). The instrument has two parts: (a) demographic profile and (b) the awareness of the respondents in the seven environmental themes namely: interdependence, finiteness of resources, change, stewardship, diversity and stability, materials cycle and balance of nature. Part one was the demographic profiling which consisted the age and sex (students, teaching, non-teaching) and educational attainment and economic status in terms of monthly income (teaching and non-teaching).

Part two was the level of awareness of respondents in the seven environmental themes; (a) the interdependence which focused on the individual's awareness on its interconnection to nature, respondent's relationship to the ecosystem, and how one affects the other; (b) finiteness of resources which focused on the individual's awareness on the limitedness of resources, how one's action contribute to the loss and destruction of natural resources; (c) change, it focused on the dynamism of nature, the inevitable shifts in environmental conditions, and how humans adapt to and influence these transformations; (d) stewardship, it focused on how one can become an instrument for the wellness of both the environment and the future generation; (e) diversity and stability, it focused on the

individual's awareness of the variety of life forms within an ecosystem, the relationship between high biodiversity and ecosystem resilience, and the importance of conservation efforts; (f) materials cycle, it focused on the continuous movement of essential elements like carbon and water through the environment, and the individual's awareness of the importance of recycling and resource flow and (g) balance of nature, it focused on the awareness of the state of equilibrium within ecosystems, how disruptions can lead to instability, and the role of human actions in maintaining this delicate state.

Statistical Treatment of Data - To facilitate the analysis and interpretation of the collected data, this study utilizes several statistical tools to ensure accuracy and clarity. Slovin's Formula was initially employed with a 5% margin of error to determine the appropriate sample size and ensure a proportionate distribution of respondents from the total population. The Mean was used to calculate the average scores of the respondents, providing a clear indication of their general level of awareness. To identify significant differences in environmental awareness levels across various stakeholder groups and aspects, a One-way Analysis of Variance (ANOVA) was conducted. Finally, the Chi-square Test was applied to determine the relationship and test the correlation between the stakeholders' socio-demographic profiles and their specific levels of environmental awareness.

3. Results and Discussion

In this section, Socio-Demographic Profile of respondents in terms of age, sex, educational attainment and economic status in terms of monthly income, the level of awareness of the stakeholders in the seven environmental themes, significant difference on the level of environmental awareness of the stakeholders among groups and among aspects, and the relationship between respondents' Socio-Demographic Profile and the level of environmental awareness among stakeholders were discussed.

3.1 Demographic Profile of the Respondents as to their Age, Sex, Educational Attainment, and Economic Status in terms of Monthly Income

3.1.1 Demographic Profile of the Respondents as to their Age

The demographic profile of CBSUA Pasacao Campus reveals a predominantly young stakeholder population, with students primarily falling within the 17–21 age range (66.67%), a distribution that Cox (2025) attributes to the traditional structure of undergraduate academic calendars and socio-developmental norms. This trend of a youthful workforce extends to the staff, as the majority of teaching personnel (62.50%) are aged 25–29, a group ELM Learning (2022) identifies as adult learners whose engagement should be guided by the principles of andragogy given their specific life stages and career experiences. Similarly, the non-teaching staff is most represented by the 23–28 age bracket (42.86%), which aligns with the findings of Samalin Wealth (2025) suggesting that this demographic serves as the primary entry point for recent college graduates transitioning into non-instructional professional roles within the educational ecosystem.

3.1.2 Demographic Profile of the Respondents as to their Gender

The institution exhibits a significant gender imbalance among its combined stakeholders, with females comprising an overwhelmingly dominant 71.64% of the population, followed by males at 22.81% and members of the LGBTQ community at 5.56%. This nearly three-quarter female majority suggests a traditionally female-centric environment often found in educational and non-teaching sectors. These findings conform with the study of Heath and Jayachandran (2016), which notes that the dominance of females among university stakeholders reflects a global trend where women have surpassed men in higher education enrollment and degree attainment since 2005. According to their research, this phenomenon is driven by higher academic achievement in secondary education, improved reading proficiency, and a shift in socio-cultural policies toward gender equity, all of which create a larger and more successful pool of female applicants compared to declining male completion rates at the secondary level.

3.1.3 Demographic Profile of the Respondents as to their Educational Attainment

The educational attainment of the institution's workforce, exclusively comprising teaching and non-teaching staff, reveals a highly qualified population where 80% of personnel hold university-level degrees. Specifically, those with Bachelor's and Master's degrees represent the two largest segments at 40% each, while staff with secondary education account for 13.33% and those with a PhD constitute the smallest portion at 6.67%. These findings are consistent with the study of Balanquit et al. (2023), which posits that the higher frequency of Bachelor's and Master's degrees compared to PhDs is rooted in the diverse range of institutional roles and the significant commitment required for terminal degrees. As noted by the researchers, while a PhD is essential for senior faculty and research positions, the majority of university operations including administrative support, technical services, and student affairs are effectively managed by professionals whose academic qualifications peak at the Bachelor's or Master's level.

3.1.4 Demographic Profile of the Respondents as to their Monthly Income

The monthly income distribution among teaching and non-teaching stakeholders reveals a diverse salary structure, with a combined 60% of the workforce earning between ₱10,001 and ₱30,000, led by the ₱20,001–₱30,000 bracket at 33.33% and the ₱10,001–₱20,000 bracket at 26.67%. Higher income levels are less common, with 20% earning ₱50,001 and above, while the remaining staff fall into the ₱30,001–₱40,000 (13.33%) and ₱40,001–₱50,000 (6.67%) ranges. This concentration in the lower-middle range reflects the prevalence of entry-level and administrative roles within the Philippine higher education sector, where compensation particularly in private institutions often trails behind State Universities and Colleges (SUCs), leading to a significant population of personnel situated in these middle-tier earnings brackets (De Luna, 2026).

3.2 Level of Awareness Among Respondents in the Seven Environmental Themes: Interdependence, Finiteness of resource, Change, Stewardship, Diversity and Stability, Materials cycle and Balance of nature

Stakeholders at the Central Bicol State University of Agriculture-Pasacao demonstrate a high level of environmental awareness, evidenced by an average rating of 3.64 across the seven environmental principles. This high awareness is attributed to the institution's role as a center for academic research and civic leadership, where sustainable ethics are integrated into the curriculum and campus operations. Higher education institutions (HEIs) foster this consciousness by embedding environmental education into mandatory courses and interdisciplinary modules, which enhances scientific literacy regarding ecological issues and solutions (Chen et al., 2025). Such institutional support and visible eco-friendly campus behaviors are crucial in shaping the environmental awareness and behavioral intentions of the entire academic community (Arnejo et al., 2025).

The study highlights a consistently "Highly Aware" status across all stakeholder groups regarding the seven environmental principles, with teaching staff recording the highest average of 3.91, followed by non-teaching staff at 3.60 and students at 3.43. For educators, this elevated consciousness is rooted in their professional role of designing and implementing sustainability programs, which inherently connects them to the pillars of knowledge, responsibility, and influence (Pop et al., 2023). Similarly, students benefit from the cross-disciplinary integration of environmental education, which equips them with the analytical skills to understand the interconnectedness of natural systems and devise solutions to global challenges like climate change (Tabanao et al., 2025). Furthermore, the high awareness among non-teaching staff is driven by their administrative and operational authority, where hands-on engagement in facilities management and waste sorting bridges the gap between environmental knowledge and practical pro-environmental behavior (Otoo, 2025).

Among the specific principles, Stewardship ranks the highest (3.73), while the Balance of Nature ranks the lowest (3.54), indicating that stakeholders identify more strongly as active guardians than with the concept of ecological equilibrium. This preference for Stewardship aligns with university missions to nurture responsible global citizens who feel a moral obligation to protect the environment for future generations (Rogayan & Nebrida, 2019). This principle emphasizes active human responsibility and ethical leadership, which are central to

institutional sustainability goals (Yassim et al., 2025; Shange et al., 2025). Conversely, the Balance of Nature is often overlooked or misunderstood, as students may support practices like using invasive species without realizing the disruption to local equilibrium (Cinco, 2026). Furthermore, current educational frameworks often prioritize economic and human-centered outcomes over ecological stability, leading to a comparative lack of depth in understanding how natural systems self-regulate (Wet Oks, 2026).

3.3 Difference Between the Level of Environmental Awareness of the Stakeholders Among Groups and Among Aspects

The difference between the level of environmental awareness of the stakeholders among groups and among aspects where P-value for the rows (students, teaching staff, and non-teaching staff) is 0, which is lower than the 0.05 (margin of error). This means that the three groups have significant difference and do not share the same level of awareness of the seven environmental principles. The groups rated differently, and it's not by chance, so they are not all the same. The difference in awareness stems from formal education, where teachers possess specialized training and a deeper academic background. Job roles also matter, as staff focus on practical daily operations while students primarily learn theory. Generational gaps further influence perspectives because teachers and non-teaching staff are older, they have had significantly more lifetime exposure to evolving environmental issues and historical changes than students. Finally, institutional access gives teachers more insight into long-term policy goals, whereas students and other staff often only see the immediate results. This result suggests that a respondent's role in the institution affects how they understand or value environmental principles. This is supported by Janietz (2024), who found that differences in job roles and responsibilities lead to unequal levels of environmental awareness among members of an organization.

Moreover, the P-value for the columns, which represent the seven environmental principles, is 3.56E-34, which is also far below 0.05 (margin error) and show significant differences. This means that the environmental principles themselves are not rated equally by respondents. Some principles are rated higher or lower than others, showing that certain aspects are more familiar, more emphasized, or more relevant to the respondents. This aligns with Rivas Perea et al. (2021), who explained that people tend to understand some environmental concepts more than others depending on how strongly these are highlighted or practiced within their institution.

3.4 Relationship between Socio-Demographic Profile (Age, Gender, Educational Attainment, and Monthly Income) and Level of Awareness among Stakeholders

3.4.1 Relationship Between Socio-Demographic Profile Along Age and Level of Awareness Among Stakeholders

The relationship between the age of stakeholders and their level of awareness varies significantly across different groups within the institution (table 1). For students, the data reveals a statistically significant relationship, with a computed Chi-Square value of 219.99 surpassing the tabular value of 113.145. This suggests that age serves as a proxy for developmental and experiential factors; as students mature, they benefit from increased cognitive maturity and a more sophisticated formal education that integrates complex sustainability concepts (Amoah & Addoah, 2021). Furthermore, older students typically have more exposure to global environmental events and possess the social autonomy necessary to engage in activism, leading to a more defined level of awareness compared to their younger peers.

In contrast, age is not a statistically significant predictor of awareness for both teaching and non-teaching staff, as their respective Chi-Square values (5.78 and 60.21) remain below the tabular threshold. For teaching staff, professional training and institutional requirements act as more consistent predictors of environmental knowledge than chronological age, effectively standardizing awareness across the group (Amézquita-Galindo & Losada Salgado, 2025). Similarly, the awareness levels of non-teaching staff are primarily shaped by mandatory workplace policies and job-specific training, such as waste management protocols, which ensure a baseline level of operational consciousness regardless of an employee's age (Van der Heijden et al., 2021). In these professional

roles, standardized institutional procedures and qualifications supersede age-related differences in personal exposure.

Table 1

Relationship between Socio-Demographic Profile along Age and Level of Awareness among Stakeholders

Respondents	Computed X^2	Tabular value	Interpretation
Students	219.99	113.145	Significant
Teaching staff	5.78	113.145	Not significant
Non-teaching staff	60.21	113.145	Not significant

3.4.2 Relationship Between Socio-Demographic Profile Along Gender and Level of Awareness Among Stakeholders

The relationship between gender and level of awareness varies across stakeholder groups (table 2), showing a statistically significant link only among students. With a computed Chi-Square value of 238.45 well exceeding the tabular value of 90.531, the data indicates that a student's gender plays a critical role in their level of awareness. This dependency is largely attributed to gender role socialization during formative years, where the "hidden curriculum" in schools reinforces different expectations and treatments for male and female students (Li, 2025). Such disparities in teacher-student interactions, assigned tasks, and exposure to gender stereotypes in media and learning materials create distinct awareness profiles based on gender within the student population.

In contrast, gender is not a significant factor for both teaching and non-teaching staff, as their computed Chi-Square values (16.81 and 37.87, respectively) fall far below the tabular threshold. For teaching staff, this independence suggests that professional environments provide uniform access to training and development, ensuring that all faculty members meet standardized competencies regardless of gender (Al-Jawad, 2016). A similar trend is observed among non-teaching staff, where institutional policies, mandatory training, and unified communication streams establish a consistent baseline of awareness across administrative and support roles (Calobag, 2024). In these professional contexts, organizational standards and equitable access to information supersede the influences of gender socialization.

Table 2

Relationship between Socio-Demographic Profile along Gender and Level of Awareness among Stakeholders

Respondents	Computed X^2	Tabular value	Interpretation
Students	238.45	90.531	Significant
Teaching staff	16.81	90.531	Not significant
Non-teaching staff	37.87	90.531	Not significant

3.4.3 Relationship Between Socio-Demographic Profile Along Educational Attainment and Level of Awareness Among Stakeholders

The relationship between educational attainment and level of awareness varies significantly between the teaching and non-teaching groups at the institution (table 3). For the teaching staff, the computed Chi-Square value of 22.29 is considerably lower than the tabular value of 90.531, indicating that a teacher's highest level of formal education does not significantly influence their awareness. This consistency is likely due to the fact that teachers primarily build their awareness through professional work experience, mandatory school policies, and continuous learning activities inherent to their roles (Lubaton, 2024). These shared professional responsibilities and ongoing training requirements tend to equalize awareness levels across the faculty, regardless of whether an individual holds a basic or advanced degree (Ambon et al., 2024).

Conversely, educational attainment is a significant factor for non-teaching staff, as evidenced by a computed Chi-Square value of 148.81, which exceeds the tabular value of 55.758. For this group, a higher educational background often correlates with a better understanding of institutional information and a more effective execution of administrative or support duties (Team foundit, 2024). This significant relationship suggests that staff with more advanced education may possess greater confidence and a stronger ability to interpret organizational guidelines, allowing them to engage more deeply with their tasks and maintain a higher level of awareness than their less-

educated counterparts (Westover, 2025).

Table 3
Relationship between Socio-Demographic Profile along Educational Attainment and Level of Awareness among Stakeholders

Respondents	Computed X^2	Tabular value	Interpretation
Teaching staff	22.29	90.531	Not significant
Non-teaching staff	148.81	55.758	Significant

3.4.4 Relationship Between Socio-Demographic Profile Along Economic Status in Terms of Monthly Income and Level of Awareness Among Stakeholders

The analysis of the relationship between monthly income and the level of awareness among university stakeholders reveals that economic status does not significantly influence environmental consciousness for either group (table 4). Among the teaching staff, the computed Chi-Square value of 17.11 is substantially lower than the tabular value of 113.145, indicating that salary levels do not dictate a teacher's awareness. This lack of a significant link suggests that foundational knowledge and environmental attitudes are driven more by high baseline education levels than by specific income brackets. Consequently, environmental concern remains a complex psychosocial construct that transcends a person's wealth or job title (Philippsen et al., 2017).

Similarly, the non-teaching staff showed no significant relationship between monthly income and awareness, with a computed Chi-Square value of 36.13 remaining below the tabular threshold of 90.531. These findings reinforce the idea that environmental awareness is primarily shaped by factors independent of socioeconomic status, such as personal values, media exposure, and community involvement. Rather than being tied to monthly earnings, a staff member's understanding of environmental issues is more strongly influenced by their educational background and individual opportunities to participate in ecological activities, which are accessible across different income levels (Philippsen et al., 2017).

Table 4
Relationship between Socio-Demographic Profile along Monthly Income and Level of Awareness among Stakeholders

Respondents	Computed X^2	Tabular value	Interpretation
Teaching staff	17.11	113.145	Not significant
Non-teaching staff	36.13	90.531	Not significant

3.5 Proposed Program to Increase the Environmental Awareness on Environmental Principle (Balance of Nature) among the Stakeholders of CBSUA

To address the gap in practical understanding of the “Balance of Nature,” the “Home-based Indigenous Reforestation Initiative for Stakeholders” was established at the CBSUA–Pasacao Campus. Scheduled for April 27 to May 3, 2026, this community-focused project led by proponents such as Shine Basco, Loveliza Ebion, Vanesa Creanza, Ahren Deszerie Olavides, and Sarah Amor aims to restore ecological balance by encouraging teaching staff, non-teaching staff, and graduating students to plant native trees in their own backyards. The initiative responds to the rapid decline of local biodiversity caused by urbanization and invasive species, which have historically suppressed indigenous plants and weakened ecosystem resilience (Kinhal, 2024; Murray & Kast, 2025). By shifting the focus from remote forests to personal domestic spaces, the program fosters a stronger psychological link to conservation and develops a sense of agency in addressing climate issues through active participation in nature-based activities (Chawla, 2020).

The program’s methodology ensures accountability and technical success through a four-step process: seedling acquisition, home planting, video documentation, and verification. Mandatory video documentation serves as an authentic assessment tool to ensure saplings are planted correctly, providing the rigorous monitoring necessary for actual forest restoration (Ricohizon, 2026). Furthermore, the initiative leverages “social proof” by encouraging faculty and staff to share their efforts on social media; this digital advocacy normalizes pro-environmental behavior and amplifies the project’s educational reach to a broader network (Peiró-Signes et al.,

2025; Niu et al., 2023). This approach not only ensures high participation rates but also raises critical awareness regarding the superior climate resilience and soil stability provided by indigenous flora compared to invasive species (Thomas et al., 2021).

Ultimately, the initiative serves as a practical application of the University's core values of Discipline, Respect, and Care, transforming an academic requirement into a compassionate commitment to environmental stewardship (CBSUA, n.d.). It also aligns with multiple United Nations Sustainable Development Goals, specifically supporting Quality Education (SDG 4) through experiential learning, Climate Action (SDG 13) via carbon sequestration, and Life on Land (SDG 15) by restoring terrestrial ecosystems (United Nations, 2016). By integrating indigenous reforestation into the clearance process for students and the professional lives of staff, the project aims to create a replicable model for sustainability that yields long-term ecological benefits for the local community.

4. Summary, Findings, Conclusions and Recommendations

4.1 Summary

This study, titled "Environmental Awareness Among the Stakeholders of Central Bicol State University of Agriculture (CBSUA)-Pasacao", was conducted to generally measure the environmental awareness of the university's stakeholders, which include students, teaching, and non-teaching staff. The study's specific objectives were to: identify the socio-demographic profile of the respondents (age, gender, educational attainment, and economic status); determine their level of environmental awareness across seven key environmental themes (interdependence, change, diversity and stability, finiteness of resources, materials cycle, balance of nature, and stewardship); determine the significant differences and correlations between these variables; and propose a program to increase environmental awareness. The research employed a quantitative research design using a descriptive-correlational-evaluative method. The respondents were the students, teaching staff, and non-teaching staff of CBSUA-Pasacao, with a total sample size of 342 respondents selected using Stratified Random Sampling. Data were collected using a structured survey questionnaire with a four-point Likert scale and were analyzed using Slovin's formula, Mean, One-way Analysis of Variance (ANOVA), and the Chi-square test.

4.2 Findings

The study on environmental awareness among the stakeholders of Central Bicol State University of Agriculture-Pasacao found that the academic community collectively demonstrates a highly aware level of environmental consciousness across the seven environmental principles, including Interdependence, Finiteness of Resources, Change, Stewardship, Diversity and Stability, Materials cycle and Balance of nature. The teaching staff consistently registered the highest level of awareness across all environmental principles while the students generally recorded the lowest mean scores across the aspects examined.

However, a statistical analysis indicated a significant difference in the level of environmental awareness among groups (students, teaching staff, and non-teaching staff) and among aspects (seven environmental principles). Regarding the relationship between the socio-demographic profile and awareness, a significant relationship was found between the age and gender of the students and the educational attainment of non-teaching staff with their level of awareness. In contrast, no significant relationship was identified between the age, gender, educational attainment, and monthly income of the teaching staff and their awareness. Similarly, no significant relationship was found between the age, gender, and monthly income of the non-teaching staff and their environmental awareness.

4.3 Conclusions

The study concludes that the stakeholders of the CBSUA Pasacao Campus demonstrate a positive attitude

toward environmental awareness. This suggests that despite variations in knowledge levels across different groups and demographics, the academic community at the campus possesses a favorable and constructive orientation toward environmental consciousness, which provides a strong foundation for the implementation of comprehensive environmental campaigns to further educate, engage, and empower the community toward active preservation.

4.4 Recommendations

The findings of this study reveal a high level of awareness among stakeholders including students, teaching, and non-teaching personnel regarding the Seven Environmental Principles. However, while overall awareness is notable, the principle of the Balance of Nature yielded the lowest mean score among the indicators. To address this gap and further solidify the stakeholders' understanding of ecological equilibrium, the researchers propose the following recommendations for the five indicators of Balance of nature:

- Encourage graduating students to plant native trees (per House Bill 8728) to protect ecosystem balance and prevent invasive species disruption.
- Students will create a social media post to raise awareness about how prey populations naturally regulate ecosystems to maintain balance and prevent biodiversity loss.
- Create awareness materials such as posters and brochures to be distributed to the public about problems caused by overfishing, such as the depletion of marine species and the loss of livelihoods.
- Students act as pioneers by placing signs to raise awareness about conserving natural resources and protecting endangered species.
- Teachers may task their students with building terrariums to provide a hands-on observation of how closed ecosystems self-regulate.

Implications for practitioners/teachers - The high level of environmental awareness among stakeholders at Central Bicol State University of Agriculture-Pasacao serves as a critical foundation for institutionalizing sustainability within the academic framework. For practitioners/teachers, these findings imply a shift in pedagogical roles from information providers to facilitators of environmental action; since the community already possesses a "Highly Aware" status, teachers can move beyond foundational concepts and integrate complex, interdisciplinary problem-solving into their curricula. This includes adopting active learning strategies such as service-learning and community-based research that challenge students to apply their knowledge to local ecological issues like waste management and climate change. Furthermore, the data suggests that educators must act as primary models of sustainable behavior, as their consistent practice of "green" habits within the classroom bridges the gap between theoretical awareness and practical application for their students.

Implications for students - For students, the transition from being informed to becoming active stewards is the primary implication of the study. While awareness scores are high, there remains a responsibility for students to translate this knowledge into behavioral consistency, particularly in daily choices regarding resource consumption and waste segregation. The findings suggest that students are now positioned to lead peer-to-peer education and campus-wide advocacy initiatives, leveraging their high awareness to influence others. By engaging in hands-on environmental projects and undergraduate research, learners can move toward a more profound level of engagement where they do not just understand environmental issues but actively participate in the ecological restoration and preservation of their immediate community.

Implications for schools - The high environmental awareness of its stakeholders provides the school administration with a mandate to elevate institutional policies from mere compliance to transformative sustainability leadership. By leveraging this awareness, the school can formalize "green" campus initiatives, such as stricter waste reduction protocols and renewable energy transitions, turning the physical campus into a "living

laboratory" for sustainable development. These findings imply that the institution should prioritize the allocation of resources toward infrastructure and partnerships that support environmental advocacy, ensuring that the school's operational culture mirrors the high awareness levels of its community. This strategic alignment between awareness and infrastructure solidifies the school's role as a regional hub for ecological responsibility and long-term environmental stewardship.

AI Use Disclosure. We used Grammarly, December 2025 for revision of text and Google Gemini, December 2025 for fact-checking. All outputs were reviewed, verified, and edited by the author/s, including fact-checking sources and validating code/results. No confidential or personally identifiable data were entered into AI tools. The author/s take full responsibility for the content.

5. References

Al-Jawad, I. A. (2016). The level of concerning the standards of (Dunn and Dunn) model of learning styles by elementary teachers, and its relationship of their tendencies towards teaching profession. *An-Najah University Journal for Research, 30*(1), 51–86. https://doi.org/10.35552/0247-030-001-003

Ambon, J., Alias, B., Komariah, A., Mansor, A. (2024). The impact of continuous professional development on teaching quality: a systematic review. International Journal of Evaluation and Research in Education (IJERE), *13*. http://doi.org/10.11591/ijere.v13i6.30427

Amézquita-Galindo, S. L., & Losada Salgado, N. (2025). Assessment of teachers' knowledge, attitudes, and practices in environmental education in a medium-sized Colombian city. *Eurasia Journal of Mathematics, Science and Technology Education*, *21*(9), em2690. https://doi.org/10.29333/ejmste/16768

Amoah, A., & Addoah, T. (2021). Does environmental knowledge drive pro-environmental behaviour in developing countries? Evidence from households in Ghana. *Environ Dev Sustain, 23*, 2719–2738. https://doi.org/10.1007/s10668-020-00698-x

Arnejo, C. J., Capuno, K. C., Lobitania, J. C., Remando, J., Soco, M. Y., & Mutya, R. C. (2025). Modeling sustainability competencies, institutional support and environmental awareness on university students' sustainability intentions. *European Journal of Sustainable Development Research, 9*(4), em0329. https://doi.org/10.29333/ejosdr/16831

Balanquit, E. P., Ladia, M. A. P., & Nool, N. R. (2023). The influence of faculty members' educational attainment on the performance in the Licensure Examination for Teachers (LET) among state universities and colleges in the Philippines. *Journal of Curriculum and Teaching*, *12*(1), 247. https://doi.org/10.5430/jct.v12n1p247

Bhandari, P. (2023). *What is quantitative research? Definition, uses & methods.* Scribbr. https://www.scribbr.com/methodology/quantitative-research/

Calobag, G. B. (2026). Exploring non-teaching personnels' challenges on training through webinars: Administrative officers in focus. *International Journal for Multidisciplinary Research, 8*(2). https://doi.org/10.36948/ijfmr.2024.v06i03.22142

CBSUA. (n.d.). *College of education philosophy, vision, mission, goals, and objective.* CBSUA. Retrieved April 14, 2026, from https://cbsua.edu.ph/

Chawla, L. (2020). Childhood nature connection and constructive hope: A review of research on connecting with nature and coping with environmental loss. *People and Nature*, *2*(3), 619–642. https://doi.org/10.1002/pan3.10128

Chen, C., Shahbaz, P., & Haq, S. U. (2025). Transforming students' green behavior through environmental education: The impact of institutional practices and policies. *Frontiers in Psychology, 15*, 1499781. https://doi.org/10.3389/fpsyg.2024.1499781

Cinco, D. G. (2026). *Seven environmental principles explained*. Scribd. https://www.scribd.com/document/663387870/7-ENVIRONMENTAL-PRINCIPLES

Cox, S. (2025). *Traditional vs. non-traditional students in higher education*. Modern Campus. https://moderncampus.com/blog/traditional-vs-non-traditional-students-in-higher-education.html

Cruz, J., & Tantengco, N. (2017). Students' environmental awareness and practices: Basis for development of advocacy program. *MIMBAR PENDIDIKAN, 2*(1), 43-64. https://doi.org/10.17509/mimbardik.v2i1.6022

De Luna, G. (2026). *Salary average Philippines 2026: What the numbers mean, and what companies actually pay.* Penbrothers. https://penbrothers.com/blog/philippines-average-salary/

ELM Learning. (2022). *Pedagogy vs. andragogy: Where many get it wrong in their learning strategy*. ELM Learning. https://elmlearning.com/blog/pedagogy-vs-andragogy/

Heath, R., & Jayachandran, S. (2016). The causes and consequences of increased female education and labor force participation in developing countries. *National Bureau of Economic Research, Inc*, 22766. https://ideas.repec.org/p/nbr/nberwo/22766.html

Hwang, H., An, S., Lee, E., Han, S., & Lee, C. (2021). Cross-societal analysis of climate change awareness and its relation to SDG 13: A knowledge synthesis from text mining. *Sustainability, 13*(10), 5596. https://doi.org/10.3390/su13105596

Janietz, C. (2024). Occupations and careers within organizations: Do organizations facilitate unequal wage growth? *Social Science Research, 120*, Article 103005. https://doi.org/10.1016/j.ssresearch.2024.103005

Joshi, A., Kale, S., Chandel, S., & Pal, D. (2015). Likert scale: Explored and explained. *British Journal of Applied Science & Technology*, *7*(4), 396–403. https://doi.org/10.9734/BJAST/2015/14975

Kinhal, V. (2024). *The impact of invasive species: Managing threats to forest ecosystems.* CID Bio-Science. Cid-Inc. https://cid-inc.com/blog/the-impact-of-invasive-species-managing-threats-to-forest-ecosystems/#:~:text=The%20rapid%20spread%20of%20invasives,increase%20the%20risk%20of%20fires

Leal Filho, W., Shiel, C., Paço, A., Adams, M., Berman, L., & Azeiteiro, U. M. (2019). Sustainable Development Goals and sustainability teaching at universities: Falling behind or getting ahead of the pack? *Journal of Cleaner Production*, *232*, 285–294. https://doi.org/10.1016/j.jclepro.2019.05.309

Li, Y. (2025). The impact of socialization on increasing high school student's gender stereotypes. *Lecture Notes in Education Psychology and Public Media*, *83*, 161-166. https://doi.org/10.54254/2753-7048/2024.20774

Lubaton, L. P. (2024). Awareness and training needs of teachers in inclusive education. International Journal of Social Science and Human Research, *7*. https://doi.org/10.47191/ijsshr/v7-i06-92

Maltais, A., Weitz, N., & Persson, Å. (2018). SDG 17: Partnerships for the goals. *A review of research needs. Technical annex to the formas report forskning för Agenda 2030: Översikt av forskningsbehov och vägar framåt.* Stockholm Environment Institute. SEI. https://www.sei.org/wp-content/uploads/2020/01/sdg-17-review-of-research-needs-171219.pdf

Murray, M., & Kast, M. (2025). *How invasive species affect ecosystems*. Utah State University Extension. Digital Commons. https://digitalcommons.usu.edu/cgi/viewcontent.cgi?article=3542&context=extension_curall

Niu, N., Fan, W., Ren, M., Li, M., & Zhong, Y. (2023). The role of social norms and personal costs on pro-environmental behavior: the mediating role of personal norms. *Psychology Research and Behavior Management, 16*, 2059-2069. https://doi.org/10.2147/PRBM.S411640

O'Regan, V. (2023). *How to promote environmental awareness in the workplace.* High Speed Training. https://www.highspeedtraining.co.uk/hub/environmental-awareness-workplace/

Otoo, E. (2025). *The development of PH facilities management industry: Current reality and future prospectives. FMOP*. https://www.fmop.ph/blog/general/the-development-of-ph-facilities-management-industry-current-reality-and-future-prospectives/

Pardo, C. (2021). Environmental awareness, practices, and attitudes of selected UNP students. *The Vector International Journal of Emerging Science, Technology and Management, 21*(1). https://ejournals.ph/article.php?id=6977

Philippsen, J. S., Angeoletto, F. H. S., & Santana, R. G. (2017). Education level and income are important for good environmental awareness: a case study from South Brazil. *Ecologia Austral*, *27*(1), 39-44.

https://doi.org/10.25260/EA.17.27.1.0.300$

Pop, I. M., Smeureanu, I., & Simion, L. E. (2023). Students' awareness regarding environment protection in campus life: Evidence from Romania. *Sustainability, 15*(23), 16444. https://doi.org/10.3390/su152316444

Ricohizon (2026). Reforestation monitoring guidelines. Scribd. https://www.scribd.com/document/321782264/Annex-5

Rivas Perea, H., Rey Piedrahita, A., & Tamayo Alzate, Ó. E. (2025). Models of environmental awareness: Exploring their nature and role in environmental education – a systematic review. *Heliyon, 11*(13), Article e43679. https://doi.org/10.1016/j.heliyon.2025.e43679

Rogayan, D. V., Jr., & Nebrida, E. E. D. (2019). Environmental awareness and practices of science students: Input for ecological management plan. *Universal Journal of Educational Research*, *9*(2), 106-119. https://files.eric.ed.gov/fulltext/EJ1219420.pdf

Samalin Wealth. (2025). Young grads face toughest job market in years: What it means for their financial future. Samalin Wealth. https://www.google.com/url?q=https://samalinwealth.com/blog/young-grads-face-toughest-job-market-in-years-what-it-means-for-their-financial-future

Shange, H. S., Zogli, L.-K. J., & Dlamini, B. 1 (2025). Green campus initiatives and strategies for sustainability in higher education. *Transformation in Higher Education, 10*, Article a364. https://thejournal.org.za/index.php/thejournal/article/view/364/854

Sundas, A., Contreras, I., Mujahid, O., Beneyto, A., & Vehi, J. (2024). The Effects of environmental factors on general human health: A scoping review. *Healthcare (Basel, Switzerland), 12*(21), 2123. https://doi.org/10.3390/healthcare12212123

Tabanao, R. L. R., Tabanao, E. M. S., & Alva, N. (2025). Exploring the environmental awareness: Knowledge, attitudes, and behaviors in Indonesia's academic community. *Cogent Education, 12*(1). https://doi.org/10.1080/2331186X.2025.2461947

Team foundit. (2024). *Administration job description*. Foundit. https://www.foundit.com.ph/career-advice/administration-job-description/

Thomas, E., Jalonen, R., Loo, J., Gallo, B., & Alcazar, C. (2021). Genetic considerations in ecosystem restoration using native tree species. *Biological Conservation, 259,* 109153. https://doi.org/10.1016/j.foreco.2014.07.015

United Nations. (2016). The Sustainable Development Goals report 2016. *United Nations.* https://unstats.un.org/sdgs/report/2016/the%20sustainable%20development%20goals%20report%2020%2016.pdf

Van der Heijden, B. I. J. M., Veld, M., & Heres, L. (2021). Does age matter? Examining career commitment as a moderator in the relationship between age-related HR/D practices and subjective career success for younger versus older academic staff. *Human Resource Development Quarterly, 33*(4), 405-425. https://doi.org/10.1002/hrdq.21463

Westover, J. H. (2025). Educational attainment and employment outcomes: A mixed-methods investigation of the synergy between higher education and labor market success. https://doi.org/10.20944/preprints202506.1790.v1

Wet Oks. (2026). *The seven environmental principles: An echo from the past.* Scribd. https://www.scribd.com/document/96009886/7-Environmental-Principles

Yassim K, Adamu C. D., & Uleanya, C. (2025) University stakeholders' roles in sustainability integration: challenges and administrative implications for sustainable development. *Frontiers in Sustainability*, 6:1605743. https://www.frontiersin.org/journals/sustainability/articles/10.3389/frsus.2025.1605743/full