

Knowledge, Attitudes, and Practices Towards Sustainable Development Goals among Youths of Biratnagar, Nepal

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Abstract	Article Info
This study investigates the Knowledge, Attitudes, and Practices regarding Sustainable Development Goals (SDGs) among the youth of Biratnagar, Nepal, focusing on the critical value-action gap in sustainable development. Adopting a quantitative, cross-sectional research design, primary data was collected from a sample of 230 young adults using a convenience sampling technique. A structured questionnaire evaluated the predictive impact of three independent variables SDG Knowledge, SDG Attitudes, and Curriculum Integration on daily Sustainable Practices. Descriptive results revealed a moderate baseline for both knowledge and attitudes, contrasted by a significantly lower execution of actual sustainable habits in daily life. Multiple linear regression analysis demonstrated that the overall model holds strong explanatory power, accounting for more than half of the variance in sustainable behaviors. Specifically, SDG Knowledge emerged as the most robust predictor of behavior, followed closely by academic Curriculum Integration and personal SDG Attitudes, fully supporting all direct research hypotheses. These findings highlight that cognitive awareness alone is insufficient to induce actual behavioral shifts. To effectively bridge this gap, higher education institutions and regional policymakers must transition from passive theoretical instruction to experiential, project-based curriculum integration to cultivate active ecological citizenship among the youth. <i>Keywords:</i> sustainable development goals, KAP model, curriculum integration, pro-environmental behavior	<i>Corresponding Email</i> Bikash Sharma <i>Email</i> itsbikashsharma@gmail.com <i>Article History</i> Received: May 21, 2026 Accepted: July 26, 2026 Published: August 06, 2026 <i>Cite</i> Sharma, B., Adhikari, R., & Nepal, M. (2026). Knowledge, attitudes, and practices towards sustainable development goals among youths of Biratnagar, Nepal. <i>Intellectual Journal of Academic Research (IJAR)</i>, 4(1), 45–60. https://doi.org/10.3126/ijar.v4i1.98341

Introduction

Sustainable development signifies a broad development strategy which will provide “the needs of the present without limiting the ability of the future to satisfy its needs” (World Commission on Environment and Development [WCED], 1987).

P. 43). As the best hope for humanity’s existence and prosperity, the Sustainable Development Goals (SDGs), were based on the 3 basic pillars – economic, social and environmental and have been created for the people, by the people and with the people (United Nations Development Programme

[UNDP], 2024). Due to the alarming global crises now faced together with each other, the UN General Assembly approved the 2030 Agenda for Sustainable Development in 2015. In addition to establishing the first-ever collective vision of 17 main objectives and 169 action steps, the Agenda for Sustainable Development set a goal of achieving peace, protecting the limits of our planet, achieving global equity and eliminating poverty by the end of 2030 (United Nations, 2015).

Despite approaching the deadline for implementing this global agenda, the world faces numerous barriers to implementing this global agenda. As reported by The Sustainable Development Goals Report 2025, the world presently experiences a crisis related to global development described as a polycrisis (United Nations, 2025). Only about one-third of the SDG targets are either on track or have made some modest progress. Approximately half of the SDG targets are proceeding very slowly while almost two-fifths of them are sliding backward toward lower than they were in 2015. With approximately 800 million people living in extreme poverty and world-wide temperatures consistently exceeding the 1.5°C threshold, there is an acknowledgment from the international community that traditional developmental methods are woefully inadequate (United Nations, 2025).

With increasing global threats to sustainability, the SDGs represent the most important tool available today to develop and implement successful socio-economic remedies. Overcoming these global obstacles necessitates an aggressive transformation. Achieving all of the various dimensions of the SDGs is not only a responsibility of governments but also a requirement for mobilizing knowledge, technology, financial resources and creative ideas globally (UNDP, 2024). Most importantly, this transformative process depends a great deal on the active participation of civil society organizations, innovative community-based initiatives, education and youth.

To address these enormous, interconnected challenges facing humanity today, education has become the key enabler of transformation. Specifically, Goal 4.7 of SDG 4 (Quality Education), requires that all students acquire both theoretical and practical skills to support sustainable development and sustainable lifestyles by 2030 (United Nations, 2015). As a result of the significant role HEIs play in transitioning society globally toward sustainable development through the integration of Education for Sustainable Development (ESD) into their curriculum, higher education institutions serve as critical “engines” in this global shift. For example, when universities provide future leaders with both cognitive and practical skill sets to enable them to move societies toward sustainable futures, they have effectively empowered those individuals to use the knowledge and understanding they gain in the classroom to create positive impact in their communities (Leicht, 2018). Simply providing students with theoretical information on sustainability alone will not produce graduates who can make decisions regarding how best to manage resources sustainably. Instead, educational programs must align curricula with the specific needs of society and industry so that students learn problem solving techniques that will allow them to apply what they learned in the classroom to solve real world problems (Zwickle et al., 2014; Dube, 2026).

The localization of the SDGs is a major national priority for Nepal at present time. Due to several structural and ecological vulnerabilities, including climate vulnerability, extreme weather events, and other natural disaster risks, Nepal’s economic transition from a Least Developed Country (LDC) to a developing nation faces significant threats (NIDR, 2024). Mobilization of Nepal’s largest resource is required if it is going to achieve success in addressing its structural and ecological vulnerabilities -- the demographic dividend. Data indicates that approximately 40.3 percent of Nepal’s population falls within the age range of 16-40 years old (Nepal Youth Council, 2020). Therefore, emphasizing the importance

of youth engagement to protect Himalayan ecosystems, execute climate actions, and drive sustainable community development in two national frameworks (the National Youth Policy, 2015 & the National Climate Change Policy, 2019), recognize that youths represent a vast untapped resource (Government of Nepal, 2019).

Although numerous national frameworks exist to guide youths' involvement in realizing SDGs, Nepali youths still struggle with severe socio-economic barriers including high rates of unemployment, poverty, and forced migration limiting their civic engagement (NIDR, 2024). Although many studies demonstrate that Nepali youths are very interested in engaging in the implementation process of SDGs, however there is no clear strategy or plan among governments at all three levels Federal, Province, and Local to assist in facilitating this participation (Nepal Youth Council, 2020). More than half of the youth surveyed believe that the state is not doing enough to engage them in the SDG process, despite their desire and capability to participate (Nepal Youth Council, 2020). Ultimately, because youths are offered few avenues to practice their participation in meaningful ways and are rarely formally obligated to participate in policy and planning formation processes at local levels, a large gap exists between national goals for SDG realization and grassroots action.

Despite the growing global commitment to the Sustainable Development Goals (SDGs) and Nepal's policy initiatives toward sustainable development, a significant gap persists between sustainability awareness and actual pro-environmental behavior among university students. Although students generally demonstrate adequate knowledge of environmental issues and express positive attitudes toward sustainability, this cognitive understanding has not consistently translated into sustainable practices in their daily lives, resulting in a persistent value-action gap that undermines the objectives of Education for

Sustainable Development (ESD) (Afroz & Ilham, 2020; Smaniotto et al., 2020; Al Husban, 2025).

In Nepal, this challenge is further intensified by structural, institutional, and educational constraints. Studies by the (NIDR, 2024) and the Nepal Youth Council (2020) indicate that young people encounter barriers such as inadequate knowledge of practical sustainability actions, limited institutional support, insufficient opportunities for participation, and curricula that inadequately integrate sustainability competencies. Similarly, digital transformation within higher education has expanded opportunities for innovative teaching and learning; however, the integration of sustainability-oriented pedagogies and digital academic practices remains uneven across Nepalese higher education institutions (Mishra, 2023). Consequently, universities continue to emphasize theoretical knowledge while providing limited opportunities for students to acquire the practical competencies required for sustainable development. The limited implementation of SDG Target 4.7 further constrains students' ability to transform sustainability knowledge into meaningful environmental actions.

Moreover, the transition toward sustainable economies requires educational institutions to cultivate competencies in green innovation, sustainable finance, and environmentally responsible decision-making. Recent studies emphasize that green innovation strategies enhance sustainable organizational performance (Mishra, 2025), while sustainable finance mechanisms, including green bonds, play a critical role in supporting long-term environmental development and climate-responsive investments (Celestin & Mishra, 2024). Likewise, the successful adoption of Green FinTech depends largely on sustainability awareness, environmental literacy, and behavioral readiness among future professionals, highlighting the strategic role of higher education in preparing youth for sustainable economic transformation (Celestin & Mishra, 2024).

Although previous studies have examined environmental knowledge, attitudes, and sustainable practices in different contexts, empirical evidence remains scarce regarding how these dimensions interact within Nepalese higher education, particularly in rapidly urbanizing cities such as Biratnagar. More importantly, no empirical study has comprehensively examined how students' knowledge of the SDGs, attitudes toward sustainability, and curriculum implementation aligned with SDG Target 4.7 collectively influence sustainable practices in this context. This lack of empirical evidence limits the ability of higher education institutions and policymakers to design effective educational interventions that promote behavioral change, strengthen Education for Sustainable Development, and prepare graduates capable of contributing to Nepal's sustainability agenda.

Therefore, this study addresses this important research gap by examining the relationships among sustainability knowledge, attitudes, curriculum implementation aligned with SDG Target 4.7, and sustainable practices among university students in Biratnagar using the Knowledge–Attitude–Practice (KAP) framework. The study contributes to the growing literature on sustainability education by providing empirical evidence on the determinants of sustainable behavior among Nepalese youth while offering practical implications for curriculum reform, institutional policy, and evidence-based strategies that strengthen youth participation in sustainable development, green innovation, sustainable finance, and climate action.

Research Objective

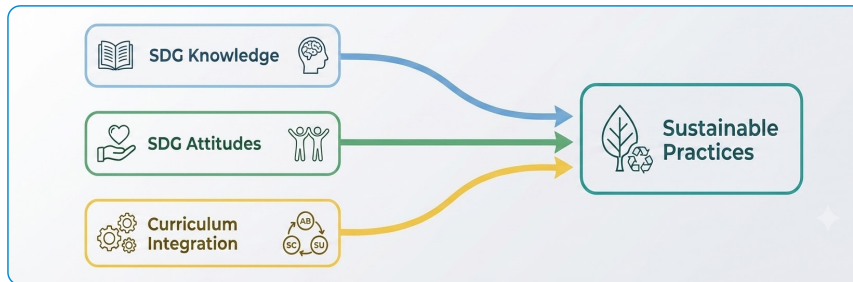
The general objective of this study is to assess the Knowledge, Attitudes, and Practices (KAP) towards the Sustainable Development Goals (SDGs) among the youths of Biratnagar, specifically evaluating how knowledge, attitudes, socio-demographics, and curriculum integration predict their actual sustainable behaviors.

Literature Review

A literature review is a comprehensive assessment that involves locating, summarizing, and critically evaluating the existing scholarly writings related to a specific subject area (Creswell, 2014). For this study, the review is systematically structured into a conceptual review, a theoretical analysis, and an empirical review to establish the current state of academic knowledge. Ultimately, by synthesizing these insights, this section constructs the foundational framework upon which the research hypotheses have been formulated.

Conceptual Framework

This study's conceptual framework shows the direct, predictive relationship among three key independent variables SDG Knowledge, SDG Attitudes, and Curriculum Integration and one final dependent variable Sustainable Practices. These variables function within a structured causal pathway such that initial awareness of sustainability cognitively influences individuals' affective or emotional attitudes, which foster an individual's subjective concerns about the environment (Olech et al., 2025) and sense of moral obligation to protect the environment (Afroz & Ilham, 2020). Simultaneously, exposure to institutions via curriculum integration functions as a critical enabler; inclusion of sustainable development principles within formal education settings increases students' objective knowledge of sustainability and supports an environmentally friendly mindset by increasing propensity for pro-environmental behavior (Malik et al., 2025; Al Husban, 2025). Rather than acting independently, each variable interacts positively with other variables. Therefore, an effective educational curriculum will increase levels of sustainability knowledge that will positively influence highly positive environmental attitudes. Through these cognitive, affective and institutional predictors, there exists a strong foundational base for youths to convert theoretically based awareness into practical, daily actions to promote sustainable practices (Smaniotto et al., 2020; Ajzen, 1991).

Figure 1*Conceptual Framework***Hypothesis Formulation**

This research has developed hypotheses that have been grounded in the systematic review of the available literature to define the association between the independent variables (SDG Knowledge, SDG Attitudes, Socio-Demographics and Curriculum Integration), and the dependent variable (Sustainable Practices).

Socio-Demographics and Sustainable Practices

Socio-demographics are the categories of individual people within populations including gender, age group, education level and field of study etc. The socio-demographic categories may act as moderator variables in defining an individual's thought processes and behavior. Literature in the global environment has identified that there are strong associations between demographics and an individual's involvement in environmentalism or pro-environmental action. For example, Al Husban (2025) demonstrated that the gender, age and academic year of students at universities in Jordan had a significant impact on their sustainable behaviors regardless of whether their overall awareness of the environment was consistent across each of these demographic groups. Similarly, from a Nepalese perspective; the same demographic differences are present. An analysis on the circular economy conducted by Olech et al. (2025) showed that there were significant variations in how Nepali youth practice sustainability depending upon where they come from (urban vs rural) and their gender, however the males were shown to be marginally more knowledgeable about technology

than females. Additionally, Subedi et al. (2025) stated that a student's educational background, specifically having an advanced academic degree, was significantly correlated with knowledge, attitudes and practices related to safe and sustainable food intake in Nepal. Therefore, it can be inferred from these studies that the following hypothesis is valid:

H1: Socio-demographic characteristics (gender, age group, education level, and field of study) significantly influence the sustainable practices of youths.

SDG Knowledge and Sustainable Practices

SDG knowledge refers to an individual's ability to have an objective understanding of each of the 17 Sustainable Development Goals (SDGs), as well as a factual knowledge base of all 17 goals' respective economic, environmental, and social targets and related sustainability paradigms (Zwickle et al., 2014; Cachero et al., 2023). Globally, there has been significant attention paid to the lack of 'functional knowledge,' which includes the actual application of the knowledge gained from the learning process. A recent cross-university study conducted by Smaniotto et al. (2020) at nine Italian universities concluded that while students demonstrated environmental awareness on a broad scale, they lacked the objective knowledge of the 2030 Agenda necessary to apply it effectively toward real-world applications. Cachero et al. (2023) further illustrated that subjective knowledge of the SDGs can be highly dependent upon an individual's area of academic discipline. Studies in

Nepal demonstrate that Nepali University Students had a baseline knowledge of Circular Economy Concepts relative to those of European Universities. Additionally, Olech et al. (2025) demonstrated that the baseline knowledge of Circular Economy Concepts among Nepali University Students were directly correlated with their own sustainable behaviors. Nonetheless, NIDR (2024) reported that many youths in Nepal are lacking in their development of comprehensive, applicable knowledge and skills to take effective climate actions. Therefore, the following hypothesis will be tested:

H2: Higher levels of SDG Knowledge significantly and positively predict engagement in sustainable practices among youths.

SDG Attitudes and Sustainable Practices

Attitude is defined as the psychological disposition people have toward an object such as the SDGs or environmental protection and can be understood as the extent to which an individual evaluates a given entity with a favorable or unfavorable opinion; thus combining an individual's own values and moral obligations (Eagly & Chaiken, 2007). Studies within International Relations also indicate that individuals' attitudes are significant drivers of the actions they take. For example, Maoela et al. (2024) found that students in South Africa demonstrated high positive attitudes toward the SDGs whereas Afroz and Ilham (2020) stated that the strength of one's attitudes toward the environment will determine whether he/she will engage in sustainable practices regardless of the "value action gap" as it relates to actual practice. Data from Nepal supports the global trend. Empirical research conducted through NIDR (2024) found that youth in Nepal possess very positive and enthusiastic attitudes toward environmental conservation and view climate change as a major threat to Nepal. Olech et al. (2025) further supported this finding with quantitative results indicating that students' positive attitudes toward environmental issues were significantly predictive of their participation in circular economic behaviors. Therefore, based

on the above referenced literature, the following hypotheses was developed:

H3: Favorable SDG Attitudes significantly and positively predict actual sustainable practices among youths.

Curriculum Integration and Sustainable Practices

The extent to which a university's formal academic program embeds sustainable practices (holistic sustainability principles, SDG-based courses, and community based learning opportunities) is referred to as the degree of Curriculum Integration. Curriculum Integration is an integral part of implementing SDG Target 4.7. Historically, universities have been at the forefront of teaching students about sustainable development through formal education. Research has shown internationally that embedding sustainability within formal education leads to great success. Studies such as Al Husban (2025), showed that structurally incorporating the SDGs into university course materials significantly increased student awareness of the SDGs. More importantly, Al Husban (2025) also identified that structurally incorporating the SDGs into university course material significantly increased students' propensity to participate in environmentally conscious behavior. Additionally, Malik et al. (2025) demonstrated that Quality Education (SDG 4) is a key driver of successful sustainability outcomes due to its "catalytic effect" in positively impacting sustainability. However, there are still many barriers in Nepal, one of those being the structural limitation of curriculum integration. Students from Nepal have specifically stated they would like to see their formal university faculties include hands-on climate change focused course content and sustainability training. Therefore, the educational experience provided by an institution is seen as a critical predictor for influencing students' views towards taking grassroots actions against climate change. This provides support for the following hypothesis:

H4: The degree of Curriculum Integration of SDGs (reflecting Target 4.7) significantly and

positively impacts the students' sustainable practices.

Methodology

Research methodology is defined as “the systematic process used by researchers to plan how they will collect data, measure that data, analyze it and report their results” so that the researcher's objectives can be met with logical precision (Creswell, 2014).

Research Design

The study has been based on the use of a Quantitative Cross-Sectional research design. A quantitative cross-sectional design enabled the assessment of the present Knowledge, Attitude and Practice (KAP) status of the target population and enabled a statistically based analysis of the relationship between the predictor variables and sustainable practice at one particular point in time (Saunders et al., 2009; Bryman, 2012)

Population and Sampling

The target population included young people living in urban area of Biratnagar, Nepal aged 18 to 35 years old. For reasons of access to participants a Non-Probability Convenience Sampling strategy was applied to gather participants (Indian Institute of Material Management, [IIMM], 2020; Creswell, 2014). The total number of valid samples gathered from this study were 230 which gave enough statistical power to meet the requirements of Multiple Regression Analysis and to decrease sampling errors (Bryman, 2012).

Data Collection Instrument

Primary data was collected using a Structured Self-Administered Survey Questionnaire delivered electronically using Google Forms. Standardized surveys are an effective way to collect objective information from a large group of subjects (Saunders et al., 2009). The survey used a five-point Likert Scale (1 = Strongly Disagree/Never to 5 = Strongly Agree/Always) and was divided into five validated constructs: Socio-Demographics, SDG Knowledge, SDG Attitudes, Curriculum Integration, and Sustainable Practices.

Data Processing and Analysis

Raw survey data were cleaned, numerically coded, and analyzed using the SPSS Version 27 software. The data processing followed three phases:

Descriptive Statistics

Frequencies, percentages, means, and standard deviations were calculated to summarize demographic profiles and baseline KAP levels (IIMM, 2020).

Reliability Assessment

The internal consistency of the Likert-scale constructs was validated using Cronbach's alpha (α), applying a strict acceptability threshold of $\alpha \geq 0.70$ (Bryman, 2012).

Inferential Statistics

Pearson correlation coefficients (r) were computed to assess bivariate associations. Subsequently, multiple linear regression analysis incorporating collinearity diagnostics (Tolerance and VIF), Adjusted R², and F-values (ANOVA) was executed to test the formulated hypotheses (H1–H4) and identify key predictors of sustainable practices at a 95% confidence interval ($p < 0.05$) (Creswell, 2014; Saunders et al., 2009).

The regression equation of the study is expressed as: $P = \beta_0 + \beta_1 K + \beta_2 A + \beta_3 C + \varepsilon$

Where,

P = Sustainable Practices

β_0 = Constant

β_1 = Regression coefficient of SDG Knowledge

β_2 = Regression coefficient of SDG Attitudes

β_3 = Regression coefficient of Curriculum Integration

K = SDG Knowledge

A = SDG Attitudes

C = Curriculum Integration

ε = Error term

Results and Discussion

The data analysis was based on the responses of 230 respondents who participated in the survey. The data collected was analyzed using IBM SPSS

Statistics 27. The analysis includes demographic profiling, descriptive statistics, reliability analysis, correlation analysis and regression analysis. The results of the analysis are presented below.

Table 1

Demographic Analysis

Demographic Details	Description	Frequency	Percent (%)
Age	18–23 years	143	62.2
	24–29 years	64	27.8
	30–35 years	23	10.0
Gender	Female	122	53.0
	Male	108	47.0
Education Level	Higher Secondary or below	42	18.3
	Undergraduate	122	53.0
	Postgraduate or above	66	28.7
Field of Study	Interdisciplinary Studies	12	5.2
	Management	124	53.9
	Science and Technology	94	40.9
Total		230	100.0

Note. Survey Report 2026 & SPSS

Table 1 presents the demographic profile of respondents based on age, gender, education level and field of study. Most respondents were aged 18–23 years, representing 62.2% ($n = 143$), followed by those aged 24–29 years with 27.8% ($n = 64$), while respondents aged 30–35 years accounted for 10.0% ($n = 23$). In terms of gender, female respondents represented 53.0% ($n = 122$), whereas male respondents accounted for 47.0% ($n = 108$), indicating a relatively balanced gender distribution. Regarding education level, most respondents were undergraduates with 53.0% ($n = 122$), followed by postgraduate or above respondents with

28.7% ($n = 66$), while 18.3% ($n = 42$) had higher secondary education or below. In relation to field of study, management students formed the largest group with 53.9% ($n = 124$), followed by science and technology students with 40.9% ($n = 94$), whereas interdisciplinary studies represented 5.2% ($n = 12$). This indicates that the sample mainly represents young and educated respondents from diverse academic backgrounds, making it suitable for examining knowledge, attitudes and practices towards Sustainable Development Goals among youths in Biratnagar.

Table 2*Descriptive Analysis of SDG Knowledge*

S.N.	Statements	Mean	S.D.
K1	I recognize that the meaning of the word “Sustainability” is the ability to be maintained at a certain rate or level.	3.24	0.84
K2	I am aware of the fact that Sustainable Development Goals are targeted to be achieved by the year 2030.	3.20	0.77
K3	I believe that protection of the environment and conservation of biodiversity are pivotal for current and future generations.	3.16	0.79
K4	Every individual should take necessary actions to curb global warming issues.	3.17	0.82
K5	I am familiar with and have read the United Nations document “Transforming Our World: The 2030 Agenda for Sustainable Development”.	3.24	0.77

Note. Survey Report 2026 & SPSS

Table 2 presents respondents’ descriptive results for SDG knowledge. The findings show a moderate level of SDG knowledge, with mean values ranging from 3.16 to 3.24. The highest mean scores were observed for understanding sustainability and familiarity with the UN 2030 Agenda, while the lowest mean was related to

biodiversity and environmental protection. The standard deviation range of 0.77 to 0.84 indicates moderate response variation. Overall, respondents demonstrated basic awareness of SDG-related concepts, but their knowledge level was not highly advanced.

Table 3*Descriptive Analysis of SDG Attitudes*

S.N.	Statements	Mean	S.D.
A1	To me, raising awareness on Sustainable Development Goals among university students is necessary.	3.41	0.83
A2	I feel basic environmental courses should be a part of our university curriculum.	3.40	0.80
A3	Environmental problems are a matter of my concern.	3.45	0.81
A4	The government should take greater account of sustainability within their political decision.	3.38	0.84
A5	Research and educational institutions should take greater account of sustainability in their activities and campaigns.	3.40	0.76

Note. Survey Report 2026 & SPSS

Table 3 presents respondents’ attitudes towards the Sustainable Development Goals. The mean values ranged from 3.38 to 3.45, indicating generally favorable attitudes towards sustainability. The highest means were recorded for concern about environmental problems, while the lowest was related to the government giving

greater attention to sustainability in political decisions. The standard deviation range of 0.76 to 0.84 reflects moderate variation in responses. Overall, respondents showed positive sustainability attitudes, particularly regarding environmental concern and the importance of SDG awareness in education.

Table 4*Descriptive Analysis of Curriculum Integration*

S. N.	Statements	Mean	S.D.
C1	In my study Programme, I have learned about the SDGs or related content.	2.95	0.78
C2	My lecturers are familiar with and use SDGs in their teaching.	2.87	0.80
C3	My lecturers are involved in community engagement projects addressing the SDGs.	2.89	0.80
C4	I have taken specific courses related to environmental sustainability during my studies.	2.95	0.83
C5	I actively participate in events such as seminars, talks, and workshops that relate to environmental sustainability.	2.90	0.78

Note. Survey Report 2026 & SPSS

Table 4 presents respondents' views on curriculum integration of SDGs. The mean values ranged from 2.87 to 2.95, suggesting a moderate to low level of SDG integration within academic learning. The highest mean scores were found for learning about SDGs in study programs and

taking sustainability-related courses, while the lowest mean concerned lecturers' use of SDGs in teaching. The standard deviation range of 0.78 to 0.83 indicates moderate response variation. This suggests that SDG integration exists but remains institutionally limited.

Table 5*Descriptive Analysis of Sustainable Practices*

S. N.	Statements	Mean	S.D.
P1	I avoid using plastic straws at restaurants/ cafes.	2.61	0.82
P2	I bring my own reusable bag for grocery shopping.	2.58	0.81
P3	I discard recyclable material such as plastic bottles, newspapers, and glass separately at home.	2.58	0.77
P4	I prefer public transport rather than a private one.	2.56	0.86
P5	I switch off electrical appliances in my home or classroom that I do not need when I am not around.	2.66	0.81
P6	I try to conserve the use of water supply at my place.	2.60	0.85
P7	I am interested to pay more for environmentally friendly products.	2.56	0.82

Note. Survey Report 2026 & SPSS

Table 5 presents respondents' sustainable practices in daily life. The mean values ranged from 2.56 to 2.66, showing a relatively low to moderate level of sustainable behaviour. The highest means were recorded for switching off unnecessary electrical appliances, while the lowest means

were observed for preferring public transport and willingness to pay more for environmentally friendly products. The standard deviation range of 0.77 to 0.86 indicates moderate response variation. Overall, sustainable practices appear weaker than respondents' knowledge and attitudes.

Table 6*Reliability Analysis*

Variables	No. of Items	Cronbach's Alpha (α)
SDG Knowledge	5	.710
SDG Attitudes	5	.713
Curriculum Integration	5	.740
Sustainable Practices	7	.730
Overall Reliability	22	.871

Note. Survey Report 2026 & SPSS

Table 6 presents the reliability analysis of the measurement constructs using Cronbach's Alpha. The results show that SDG Knowledge ($\alpha = .710$), SDG Attitudes ($\alpha = .713$), Curriculum Integration ($\alpha = .640$), and Sustainable Practices ($\alpha = .730$) recorded moderate internal consistency. These values are just above the conventional threshold

of .70, and they indicate acceptable reliability for an exploratory behavioural study using self-reported Likert-scale data. The overall reliability value was strong ($\alpha = .871$), confirming that the full questionnaire demonstrated good internal consistency.

Table 7*Correlation Analysis*

Variables	K	A	C	P
SDG Knowledge (K)	1			
SDG Attitudes (A)	.684**	1		
Curriculum Integration (C)	.619**	.664**	1	
Sustainable Practices (P)	.649**	.610**	.619**	1

Note. Survey Report 2026 & SPSS

Table 7 presents Pearson's correlation analysis at the 0.01 significance level. All constructs showed positive and statistically significant relationships, indicating that higher SDG knowledge, favorable attitudes and stronger curriculum integration are associated with greater sustainable practices. The strongest inter-variable correlation was between SDG Knowledge and SDG Attitudes ($r = 0.684$).

Sustainable Practices was most strongly associated with SDG Knowledge ($r = 0.649$), followed by Curriculum Integration ($r = 0.619$) and SDG Attitudes ($r = 0.610$), highlighting the combined role of knowledge, attitudes and academic exposure in shaping sustainable behaviour.

Table 8*Regression Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.716a	.513	.506	.32142	1.942

Note. a Predictors: (Constant), Curriculum, Knowledge, Attitudes Survey Report 2026 & SPSS

Table 8 presents the regression model summary for the predictors of Sustainable Practices. The model produced an R value of .716, indicating a strong positive association between the predictor variables and Sustainable Practices. The R Square value of .513 shows that SDG Knowledge, SDG Attitudes and Curriculum Integration collectively explained 51.3% of the variance in Sustainable Practices. The Adjusted R Square value of .506 further confirms that the model retained strong explanatory power after

adjusting for the number of predictors. The standard error of the estimate (.32142) indicates a relatively low level of prediction error, suggesting that the model provides reasonably accurate estimates of Sustainable Practices. Furthermore, the Durbin-Watson statistic of 1.942, which is close to the ideal value of 2, indicates that there is no significant autocorrelation among the residuals, confirming that the independence of errors assumption of multiple regression has been satisfied.

Table 9

ANOVA Analysis

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.575	3	8.192	79.292	.000b
	Residual	23.348	226	.103		
	Total	47.924	229			

Note. Survey Report 2026 & SPSS

Table 9 presents the ANOVA results for the multiple regression model predicting Sustainable Practices. The model was statistically significant, $F(3, 226) = 79.292, p < .001$, indicating that SDG Knowledge, SDG Attitudes and Curriculum Integration collectively explained a significant proportion of variance in Sustainable Practices.

This confirms that the regression model provides a meaningful statistical fit to the data. However, the ANOVA result only confirms the overall model significance, while the individual predictive contribution of each variable is assessed through the coefficients table.

Table 10

ANOVA Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.268	.155		1.727	.086		
	Knowledge	.320	.061	.350	5.242	.000	.484	2.067
	Attitudes	.167	.063	.184	2.631	.009	.438	2.281
	Curriculum Integration	.251	.058	.280	4.295	.000	.508	1.969

Note. Survey Report 2026 & SPSS

Table 10 presents the multiple regression coefficient estimates for predicting Sustainable Practices. The results indicate that all three independent variables have positive and statistically

significant effects on Sustainable Practices. SDG Knowledge emerged as the strongest predictor ($B = .320, \beta = .350, t = 5.242, p < .001$), followed by Curriculum Integration ($B = .251, \beta = .280, t =$

4.295, $p < .001$) and SDG Attitudes ($B = .167$, $\beta = .184$, $t = 2.631$, $p = .009$). The regression equation derived from the model is:

$$\text{Sustainable Practices} = 0.268 + 0.320 (\text{Knowledge}) + 0.167 (\text{Attitudes}) + 0.251 (\text{Curriculum Integration}).$$

The collinearity diagnostics indicate that multicollinearity is not a concern, as the Tolerance values ranged from .438 to .508 (greater than 0.10) and the VIF values ranged from 1.969 to 2.281 (well below the threshold of 5). Based on the significance levels of the regression coefficients, all three hypotheses (H1, H2, and H3) were supported, confirming that SDG Knowledge, SDG Attitudes, and Curriculum Integration each have a significant positive influence on Sustainable Practices among youth. These findings further suggest that enhancing sustainability knowledge, fostering positive attitudes, and strengthening curriculum integration can collectively promote greater engagement in sustainable practices.

The primary purpose of this study was to examine whether SDG Knowledge, SDG Attitudes, and Curriculum Integration will predict the sustainable behaviors of youths in Biratnagar. A Multiple Regression Analysis confirms that the three variables have an explanatory power of 51.2% for Pro-Environmental Behaviors ($R^2 = 0.512$).

These empirical results directly support the findings of Olech et al. (2025), who found that Nepali students have an established base line level of sustainability knowledge that has a positive correlation with their actual ecological behaviors. However, the results of this study also show that there is still a large “value-action gap” present among Nepali youth. In addition to supporting previous studies by Afroz and Ilham (2020) and a Nepalese food safety study by Subedi et al. (2025) that demonstrated that having very favorable environmental attitudes or having some form of environmental awareness does not necessarily lead to being environmentally conscious in day-to-day life activities, the data collected in this study

demonstrate that it takes an external catalyst to facilitate this transition.

Therefore, the results of this research reject the traditional passive Knowledge-Attitude-Practice (KAP) Model, which suggests that individuals will naturally follow through with actions once they acquire the appropriate knowledge about those actions. Rather, the results from this research strongly support the claims made by Al Husban (2025) and Malik et al. (2025), indicating that Curriculum Integration (the implementation of SDG Target 4.7) serves as the most important mechanism to facilitate the transitional phase.

Furthermore, the findings of this study validate reports by NIDR (National Institute for Development and Research) (2024) confirming that when educational institutions integrate practical and applicable sustainable skills into the curriculum of their students, they are more likely to be engaged in real-world sustainable practices. Moreover, the influence of demographic variables such as field of study is consistent with global discrepancies reported by Cachero et al. (2023) regarding the understanding of SDGs across different disciplines.

Limitations & Directions for Future Research

A limitation associated with this study's quantitative cross-sectional methodology is its inability to assess causality over time due to its nature of collecting behaviorally relevant data at one point in time. Additionally, since all responses were based on student self-reporting surveys, respondents may have provided answers in order to appear more socially desirable. Therefore, future research should use longitudinal methodologies to assess how students' sustainable behaviors change after implementing targeted curriculum changes. Using a combination of qualitative and quantitative methods could also help to better understand sociocultural barriers related to sustainability practices and expand the sample population to include rural youth demographics in order to increase national generalizability.

Conclusion

This study concludes that, in rapidly urbanizing cities such as Biratnagar, sustainability knowledge and positive environmental attitudes, although essential, are insufficient to generate consistent pro-environmental behavior among university students. The findings reinforce the existence of a persistent knowledge–action gap, indicating that awareness and favorable attitudes alone do not necessarily translate into sustainable practices. Rather, the transformation of sustainability intentions into everyday behavioral practices depends on supportive institutional and educational mechanisms that facilitate experiential learning and practical engagement.

The findings further demonstrate that integrating Education for Sustainable Development (ESD) in accordance with SDG Target 4.7 into higher education curricula can serve as a critical institutional mechanism for bridging this gap. Curriculum designs that emphasize experiential learning, problem-solving, community engagement, and sustainability-oriented projects are more likely to equip students with the competencies required to adopt environmentally responsible behaviors and actively contribute to sustainable development. Consequently, higher education institutions should move beyond knowledge-based instruction toward competency-based and action-oriented learning that enables students to become effective agents of environmental and social transformation.

From a theoretical perspective, this study extends the Knowledge–Attitude–Practice (KAP) model by demonstrating that cognitive (knowledge) and affective (attitude) dimensions alone are insufficient predictors of sustainable behavior. The study provides empirical evidence that curriculum integration aligned with SDG Target 4.7 functions as an important institutional and contextual factor that strengthens the translation of sustainability knowledge and attitudes into practice. This contribution enriches the literature on sustainability education by emphasizing the interaction between individual behavioral determinants and institutional support mechanisms.

From a practical and policy perspective, the findings provide important implications for higher education institutions, curriculum developers, and policymakers in Nepal. Universities should embed sustainability competencies across academic programs through interdisciplinary curricula, experiential learning, green campus initiatives, service-learning, and community-based projects. Likewise, policymakers should strengthen the implementation of SDG Target 4.7 by promoting institutional policies that integrate sustainability into teaching, learning, and campus governance. Such reforms will not only enhance students' environmental competencies but also contribute to developing a generation of socially responsible graduates capable of addressing local and global sustainability challenges while advancing Nepal's commitments to the Sustainable Development Goals.

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