



Perceptions of biodiversity conservation among students and faculty at Isabella Thoburn College, Lucknow, Uttar Pradesh

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Abstract

Biodiversity conservation is fundamental to maintaining ecological stability, ecosystem functioning, and environmental sustainability. Educational institutions play a critical role in shaping environmental awareness and conservation behaviour. The study examines perceptions on biodiversity conservation among students and faculty at Isabella Thoburn College, Lucknow, Uttar Pradesh, using a quantitative survey-based approach. A structured questionnaire received 130 responses, including students (80%) and faculty (20%), to assess biodiversity awareness, conservation perception, environmental attitudes, and sustainable practices. Descriptive statistical analysis was conducted using frequency distributions and percentage analysis, and graphical representations were used to interpret behavioural trends. The results indicate a high level of biodiversity awareness, with 96.9% of respondents demonstrating correct conceptual understanding. Additionally, 93.1% recognized biodiversity conservation as essential for maintaining ecological balance. Sustainable environmental behaviors were widely adopted, including cloth bag usage (82.3%), waste segregation (69.2%), biodegradable product usage (66.9%), and paper conservation practices (61.5%). However, only 17.7% of respondents reported frequent participation in biodiversity conservation activities, indicating a gap between awareness and active engagement. Graphical analysis demonstrated strong positive trends in biodiversity awareness and sustainable practices but moderate levels of conservation participation. The findings highlight the effectiveness of environmental education in promoting awareness but emphasize the need for institutional initiatives to increase active conservation participation. The study concludes that higher education institutions play a crucial role in biodiversity conservation and sustainability promotion.

Keywords: Biodiversity Conservation, Environmental Perception, Sustainability, Environmental Education, Ecological Awareness

Introduction

Biodiversity encompasses the variety of living organisms, including plants, animals, microorganisms, and ecosystems. It plays a fundamental role in maintaining ecological balance, ecosystem functioning, and environmental sustainability. Biodiversity supports ecosystem services such as nutrient cycling, climate regulation, pollination, soil fertility, and water purification. These services are essential for sustaining life on Earth and ensuring environmental stability.

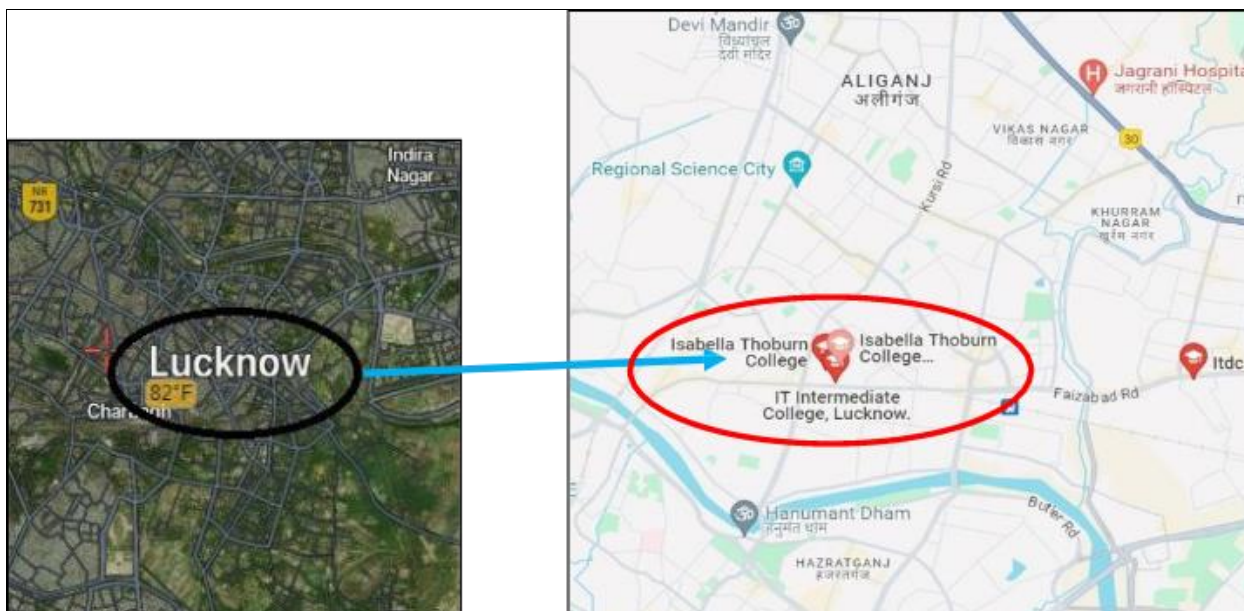
Despite its importance, biodiversity is declining at an unprecedented rate due to anthropogenic activities such as habitat destruction, urbanization, industrialization, pollution, and climate change. Urban ecosystems, in particular, face significant biodiversity loss due to infrastructure expansion and resource exploitation. Education plays a critical role in promoting biodiversity conservation by increasing environmental awareness, shaping conservation attitudes, and encouraging sustainable behaviour. Environmental education enhances individuals' understanding of ecological systems and promotes environmentally responsible decision-making.

Higher education institutions serve as important platforms

for environmental education and sustainability promotion. Students represent future policymakers, researchers, and environmental managers, while faculty members influence environmental awareness through teaching and research. Understanding biodiversity conservation perception among students and faculty is essential for evaluating the effectiveness of environmental education programs and identifying opportunities for improving conservation engagement. This study examines biodiversity conservation perception among students and faculty at Isabella Thoburn College, Lucknow, Uttar Pradesh.

Study Area

The study was conducted at Isabella Thoburn College, Lucknow, Uttar Pradesh, women's college in Lucknow, India, named for Isabella Thoburn, who founded it and was the first American woman to sail as a Methodist Episcopal Church missionary in India in 1869. When the college opened in 1870, there were just six female students enrolled. The college is currently connected to the University Of Lucknow. On the Chand Bagh site, it has constructed buildings since the 1920s, including lecture halls, student residences, labs and a library.



(Source: satellites.pro)

Map 1: Showing satellite map of Isabella Thoburn College

Materials and Methods

Methodology

This study was based on a quantitative descriptive research design using a structured questionnaire (in the form of Google form) for the targeted audience of the campus to assess biodiversity conservation perceptions.

1. Sample Size and Respondent Characteristics

A total of 130 respondents participated in the study. The majority of respondents were students, reflecting institutional demographics.

2. Sampling Technique: A simple random sampling method was used. Students and faculty members from various academic disciplines were included to understand

their views, awareness, and attitudes toward biodiversity conservation.

3. Data Collection: The data was collected through a questionnaire-based survey containing a mix of questions aimed at assessing participants' awareness and attitudes toward biodiversity conservation. Respondents were allowed to select answers from multiple-choice options and express their opinions through close-ended questions.

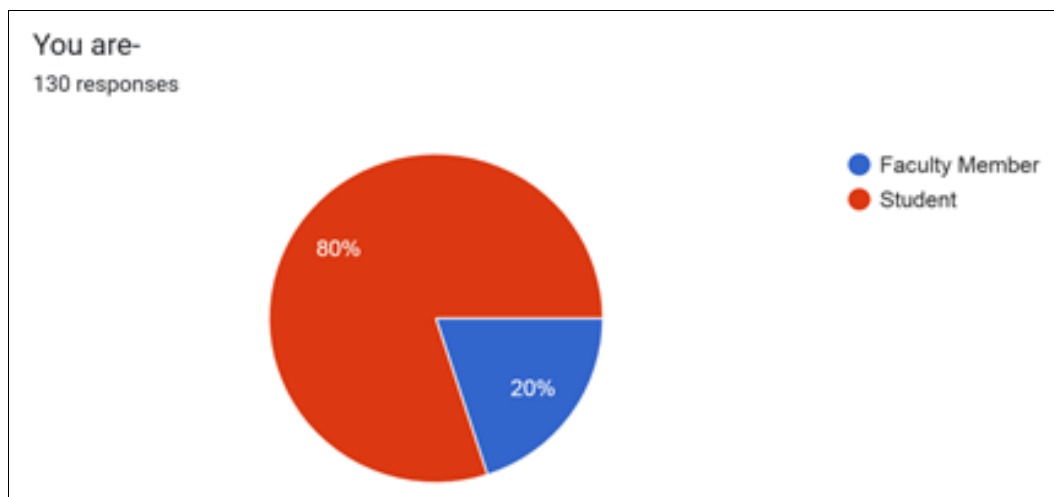
4. Data Analysis

Data were analysed using descriptive statistical methods, including frequency and percentage analysis. Graphical visualization was used to interpret trends and relationships.

Results and Discussion

Table 1: Representing Respondent Category Distribution

Category	Frequency	Percentage (%)
Students	104	80.0
Faculty	26	20.0
Total	130	100

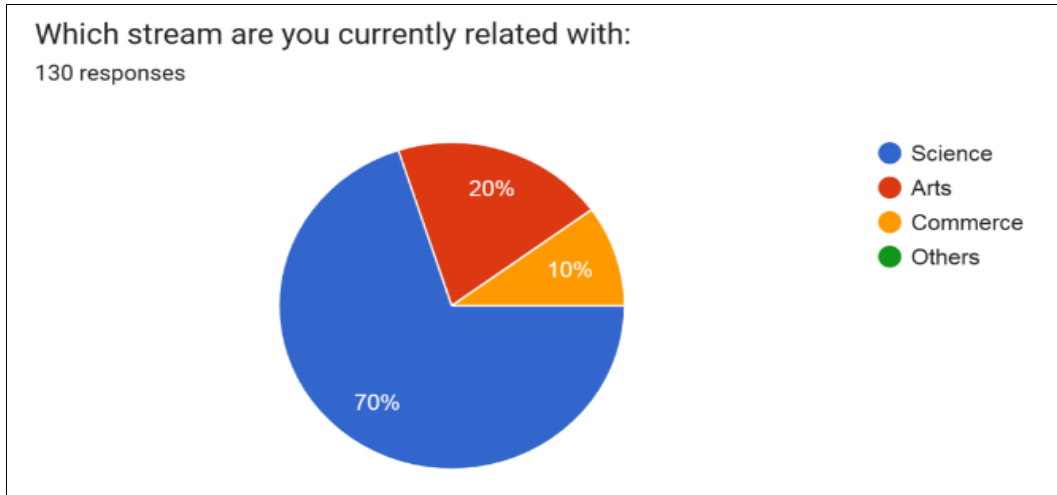


Graph 1: Showing total numbers of responses out of which, 80% respondents (104) are students, while 20% respondents (26) are faculty members

Table 2: Representing Academic Stream Distribution

Stream	Frequency	Percentage (%)
Science	91	70.0
Arts	26	20.0
Commerce	13	10.0

Science students represented the largest proportion, which may influence biodiversity awareness levels.



Graph 2: Showing distribution of respondents based on their academic stream out of which 70% respondents - Science stream followed by the Arts stream 20% & the Commerce stream 10%, No (0) responses were recorded in the 'Others' category

- **Perception of Biodiversity Importance** - Respondents demonstrated strong awareness of biodiversity's ecological importance.

Ecological balance was identified as the most important function of biodiversity conservation.

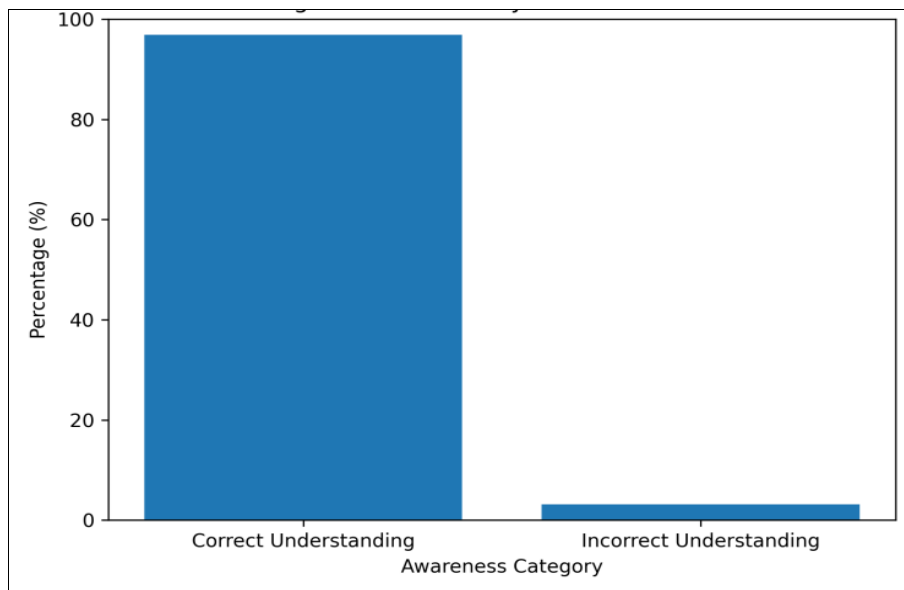
Table 3: Showing Perceived Importance of Biodiversity Conservation

Category	%
Ecological balance	93.1
Ecosystem stability	37.7
Human survival	28.5

- **Biodiversity Awareness** - The study found a very high level of biodiversity awareness among respondents.

Table 4: Showing Biodiversity Awareness Level

Awareness Level	Frequency	%
Correct understanding	126	96.9
Incorrect understanding	4	3.1



Graph 3: Representing Table 4: Biodiversity Awareness Level

Graph 3 depicts that 96.9% of respondents have correct understanding of biodiversity, indicating very high awareness among students and faculty. Only 3.1%

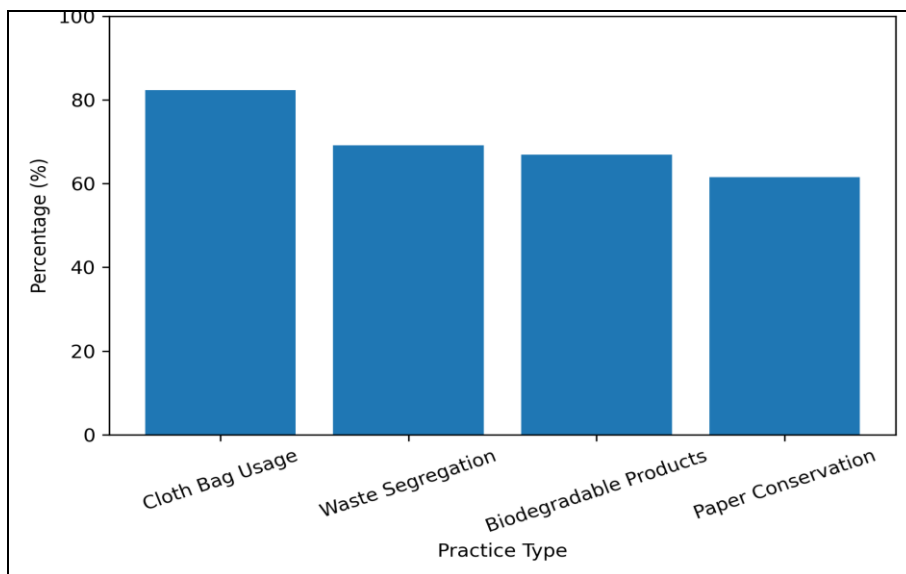
demonstrate incorrect understanding, reflecting effective environmental education and strong conceptual knowledge within the academic community.

▪ **Sustainable Environmental Practices**

Respondents demonstrated strong adoption of sustainable environmental practices.

Table 5: Showing Adoption of Sustainable Environmental Practices

Practice	%
Cloth bag usage	82.3
Waste segregation	69.2
Biodegradable products	66.9
Paper conservation	61.5



Graph 4: Representing Table 5: Sustainable Environmental Practices

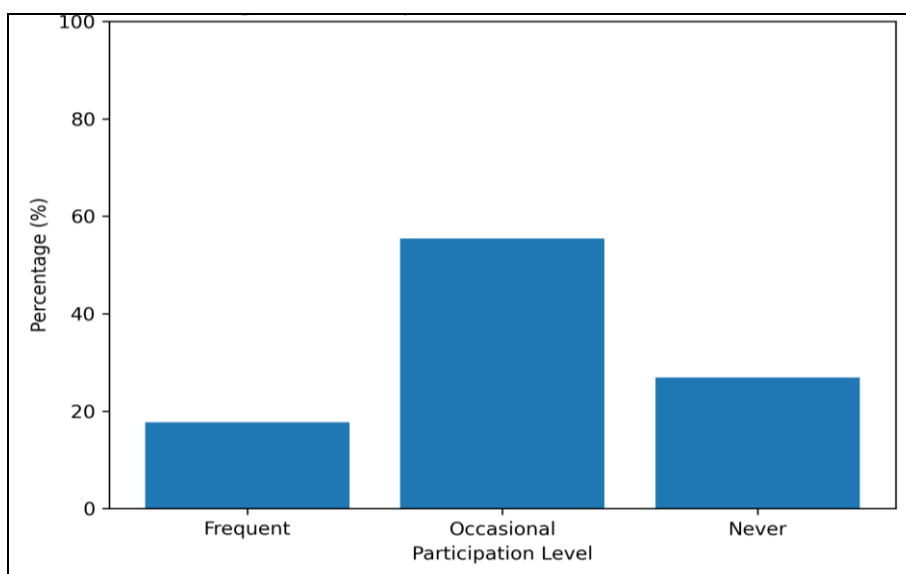
The Graph 4 depicts widespread adoption of sustainable practices, with cloth bag usage (82.3%), waste segregation (69.2%), and biodegradable product use (66.9%). These results indicate strong environmental responsibility and sustainable lifestyle choices among respondents.

▪ **Participation in Biodiversity Conservation Activities**

Participation in conservation activities was relatively moderate.

Table 6: Participation in Conservation Activities

Participation Level	Percentage (%)
Frequent	17.7
Occasional	55.4
Never	26.9



Graph 5: Representing Table 6: Participation in Conservation Activities

Graph 5 shows conservation participation levels, where only 17.7% frequently participate, while 55.4% participate occasionally and 26.9% never participate. This highlights a gap between biodiversity awareness and active conservation engagement.

▪ Awareness of Biodiversity Threats

Table 7: Showing Awareness of Biodiversity Threats

Threat Awareness Level	%
Multiple threats recognized	87.7
Limited awareness	12.3

Respondents identified habitat destruction, pollution, and climate change as major threats.

Discussion

The results demonstrated a high level of biodiversity awareness among students and faculty of the I.T. College campus. The high awareness level may be attributed to environmental education, academic exposure, and institutional environmental programs. Science students represented the majority of respondents, which may contribute to higher biodiversity awareness due to academic curriculum exposure. The strong adoption of sustainable environmental practices indicates that environmental awareness influences behavioural outcomes.

However, conservation participation levels were relatively low, indicating an awareness–action gap. This phenomenon has been widely observed in environmental behaviour research.

This gap may be attributed to:

- Limited conservation opportunities
- Lack of institutional conservation programs
- Limited practical engagement

Educational institutions play a critical role in promoting conservation participation through environmental education and sustainability initiatives.

Conclusion

This study concluded biodiversity conservation perceptions among the students and faculty at Isabella Thoburn College, Lucknow.

The results indicate:

- High biodiversity awareness (96.9%)
- Strong conservation perception (93.1%)
- Strong sustainable environmental behaviour (60–82%)
- Moderate conservation participation (17.7% frequent participation)

Graphical analysis confirmed strong awareness but moderate conservation engagement. Environmental education effectively promotes biodiversity awareness and sustainable behaviour. However, increased institutional conservation initiatives are necessary to improve conservation participation. Educational institutions play a crucial role in biodiversity conservation and environmental sustainability promotion.

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