



Exploring the Role of Strategic Communication in the Promotion of Environmental Sustainability Awareness in Benue State

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ABSTRACT

This study explores the pivotal role of strategic communication in promoting environmental sustainability awareness in Benue State. The research aims to assess how exposure to environmental messages influences residents' awareness, practices, and behavioral changes related to environmental conservation. Specifically, the study investigates the association between exposure to strategic environmental communication and awareness levels among residents, examines the relationship between participation in environmental awareness programs and the adoption of sustainable practices, analyzes how the frequency of environmental messages impacts behavioral change, and evaluates whether community-based communication initiatives enhance awareness. Grounded in Environmental Communication Theory, the target population comprises residents, environmental agency representatives, community leaders, educators, and media professionals engaged in environmental communication, with a sample size of 131 respondents. Data analysis using chi-square tests revealed significant associations across all examined variables: participation in awareness programs ($\chi^2=108.71$, $p<0.05$), frequency of message exposure ($\chi^2=162.1$, $p<0.05$), and engagement in community initiatives ($\chi^2=155.3$, $p<0.05$). These findings underscore the importance of strategic communication in fostering sustainable environmental behaviors. The study recommends that government agencies, environmental organizations, and media outlets collaborate to enhance the dissemination of targeted environmental messages through diverse channels such as radio, television, social media, and community outreach. Increasing the frequency and reach of these messages is vital for elevating residents' awareness and promoting sustainable environmental practices in Benue State.

Keywords: Strategic communication, environmental sustainability awareness, behavioral changes.

1.1 Background to the Study

Environmental sustainability has become an increasingly critical global concern, with local communities like Benue State in Nigeria facing unique challenges related to deforestation, land degradation, waste management, and climate change impacts (United Nations Environment Programme [UNEP], 2022). Effective communication strategies are vital for raising awareness, shaping attitudes, and promoting sustainable behaviors among diverse populations (Smith & Johnson, 2021). Strategic communication, which involves deliberate planning and targeted messaging, can significantly influence environmental perceptions and actions (Kumar & Singh, 2023).

In Benue State, agriculture forms the backbone of the economy, but unsustainable farming practices and deforestation threaten long-term environmental health (Nwankwo & Adebayo, 2022). Despite the availability of environmental information, there remains a gap in public understanding and engagement, often due to ineffective communication approaches (Okechukwu et al., 2023). Recent studies emphasize the importance of culturally sensitive and context-specific communication strategies to foster environmental stewardship (Okafor & Eze, 2022).

Moreover, the role of media platforms, community-based communication, and educational programs in enhancing environmental awareness has gained prominence in recent research (Adams & Clark, 2023). These approaches can empower local populations to participate actively in conservation efforts and adopt sustainable practices. Therefore, understanding how strategic communication can be harnessed effectively in Benue State is essential for developing sustainable environmental policies and community engagement initiatives.

1.2 Statement of the Problem

Environmental degradation has become a pressing issue in Benue State, characterized by deforestation, soil erosion, pollution, and loss of biodiversity (Adeniji et al., 2022). Despite the increasing environmental challenges, there remains a significant gap in effective communication strategies that can raise awareness and promote sustainable behaviors among residents. Previous studies have highlighted that lack of awareness and inadequate dissemination of environmental information hinder community participation in conservation efforts (Ojo & Oladipo, 2021).

Furthermore, existing communication approaches often fail to resonate with local cultural contexts, leading to limited behavioral change (Ibrahim & Yusuf, 2020). The role of strategic communication—planned, targeted, and culturally sensitive messaging—in fostering environmental awareness has not been sufficiently explored within the specific socio-economic and cultural landscape of Benue State. This gap underscores the need to examine how strategic communication can be optimized to enhance environmental sustainability awareness among diverse audiences in the region. Therefore, this study seeks to investigate the effectiveness of current communication strategies and their impact on environmental awareness, aiming to identify gaps and propose tailored approaches that can foster sustainable practices in Benue State.

1.3 Objectives of the study

This centered on Exploring the Role of Strategic Communication in Promoting Environmental Sustainability Awareness in Benue State. The specific objectives include:

1. To examine the association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State.
2. To assess the relationship between participation in environmental awareness programs and the adoption of sustainable environmental practices in Benue State.
3. To examine the relationship between the frequency of exposure to environmental messages and the behavioral changes towards environmental conservation in Benue State.
4. To assess whether participation in community-based environmental communication initiatives is associated with higher awareness levels in Benue State.

1.4 Research questions

The study answered the following research questions:

1. Is there an association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State?
2. What is the relationship between participation in environmental awareness programs and the adoption of sustainable environmental practices in Benue State?
3. How does the frequency of exposure to environmental messages influence behavioral changes towards environmental conservation among residents of Benue State?
4. Is participation in community-based environmental communication initiatives associated with higher levels of environmental awareness in Benue State?

1.5 Research Hypothesis

The following research hypotheses are formulated:

HO₁: There is no significant association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State.

HO₂: Participation in environmental awareness programs no significantly associated with the adoption of sustainable environmental practices in Benue State.

HO₃: The frequency of exposure to environmental messages no significantly related to behavioral changes towards environmental conservation among residents of Benue State.

HO₄: Participation in community-based environmental communication initiatives no significantly associated with higher levels of environmental awareness in Benue State.

2.1 Review of Related Literature

2.1.1 Relationship between exposure to strategic environmental communication and awareness of environmental sustainability issues

Environmental sustainability awareness is crucial in fostering responsible behaviors and policies that promote ecological balance. Strategic environmental communication (SEC) plays a vital role in disseminating information and shaping perceptions about environmental issues (Liu et al., 2020). The effectiveness of SEC in raising awareness among residents depends on various factors, including message delivery, channels used, and audience engagement (Khan et al., 2021).

Studies have demonstrated a positive correlation between exposure to strategic environmental communication and increased environmental awareness. For instance, Liu et al. (2020) found that residents who frequently engaged with environmental messages through media campaigns exhibited a higher understanding of sustainability issues. Similarly, Khan et al. (2021) highlighted that targeted communication strategies significantly improve awareness levels among rural populations.

In the context of Nigeria, and specifically Benue State, limited empirical studies have directly examined this relationship. However, existing research on environmental communication indicates that exposure to well-structured campaigns can influence residents' knowledge and perceptions about environmental sustainability (Akinbami & Olatunji, 2019). These campaigns often include radio broadcasts, community meetings, and social media platforms that are accessible to various demographic groups.

The channels through which environmental messages are communicated significantly affect awareness outcomes. Traditional media like radio and community meetings remain effective in rural areas such as Benue State (Adebisi & Oladipo, 2022). The use of culturally relevant messages and local languages enhances engagement and understanding (Ogunniyi et al., 2021). While the general relationship between exposure to environmental communication and awareness is well-established, there is limited specific research focusing on Benue State. Understanding how residents interact with strategic communication efforts in this context is vital for designing effective interventions to promote environmental sustainability.

2.1.2 Relationship between participation in environmental awareness programs and the adoption of sustainable environmental practices

Participation in environmental awareness programs is widely recognized as a pivotal factor in fostering sustainable environmental practices among communities. Such programs aim to educate residents on environmental issues, influence attitudes, and promote behavioral change toward sustainability (UNEP, 2020). In the context of Benue State, where agriculture and natural resource management are critical, effective environmental education can significantly impact community practices.

Studies show that active participation in environmental awareness initiatives enhances residents' knowledge and positively influences their environmental behaviors. For instance, Odufuwa et al. (2021) found that community engagement in environmental education in Nigeria led to increased adoption of conservation practices, such as proper waste disposal and tree planting. Similarly, Okafor and Nwosu (2022) demonstrated that awareness campaigns significantly improved farmers' practices concerning soil and water conservation in southeastern Nigeria, a region with socio-economic and environmental similarities to Benue State.

Participation often increases awareness of environmental issues, which in turn motivates behavioral change (Ahmed & Yusof, 2021). Educational programs that incorporate participatory approaches, such as community meetings and practical demonstrations, are particularly effective (Eze et al., 2022). These methods foster a sense of ownership and responsibility, encouraging adoption of sustainable practices like reduced use of harmful agrochemicals and sustainable land management.

Recent studies emphasize the importance of sustained participation and contextual relevance for effective behavioral change. For example, a 2023 survey in Benue State revealed that communities engaged in organized environmental programs were twice as likely to adopt sustainable farming practices compared to those with minimal exposure (Nwogu & Chukwu, 2023). This underscores the critical role of organized participation in promoting sustainable behaviors.

2.1.3 Relationship between the frequency of exposure to environmental messages and behavioral changes toward environmental conservation

The relationship between exposure to environmental messages and behavioral change is a well-studied area within environmental communication research. Empirical evidence suggests that the frequency and intensity of exposure to environmental messages significantly influence individuals' awareness, attitudes, and ultimately, their behaviors towards environmental conservation (Kollmuss & Agyeman, 2019).

Frequent exposure to environmental messages—through media, community campaigns, or interpersonal communication—enhances individuals' familiarity with environmental issues, which can lead to increased concern and motivation to take conservation actions (Bengston et al., 2020). This phenomenon aligns with the Elaboration Likelihood Model (Petty & Cacioppo, 2018), which posits that repeated exposure increases message processing and persuasion, fostering behavioral intentions.

Recent studies have demonstrated a positive correlation between exposure frequency and pro-environmental behaviors. For instance, a study by Li et al. (2021) in urban China found that individuals who were frequently exposed to environmental messages via social media were more likely to adopt sustainable practices such as waste recycling and energy conservation. Similarly, in Nigeria, Ojo and Oladipo (2022) reported that repeated environmental messaging through local radio and community meetings was associated with increased participation in conservation activities.

Repeated exposure can reinforce environmental values and beliefs, reduce cognitive dissonance, and facilitate social norm internalization (Nguyen & Tran, 2020). These processes contribute to sustained behavioral change, especially when messages are tailored and delivered through trusted channels.

Despite the evidence supporting the positive relationship, some studies highlight that exposure alone may not be sufficient to induce behavior change without accompanying factors such as perceived efficacy, social support, and environmental literacy (Johnson et al., 2021). Furthermore, the quality, clarity, and relevance of messages influence their effectiveness, suggesting that frequency must be complemented by message content. Recent research emphasizes the importance of integrating digital media platforms to increase message exposure frequency, especially among youth populations (Chen & Lee, 2023). Additionally, participatory communication approaches that encourage active engagement have been shown to amplify the impact of repeated messaging (Akpan et al., 2022).

2.1.4 Relationship between participation in community-based environmental communication initiatives and higher awareness levels

Participation in community-based environmental communication initiatives has been identified as a critical factor in enhancing environmental awareness and promoting sustainable behaviors. These initiatives often involve local residents, community leaders, and organizations working collaboratively to disseminate environmental information, foster engagement, and encourage collective action. Research indicates that community-based environmental communication effectively increases awareness by leveraging local knowledge, cultural relevance, and trust within communities (Khan et al., 2021). Such initiatives facilitate two-way communication, allowing communities to voice concerns and receive targeted information, which enhances understanding and ownership of environmental issues.

Empirical studies demonstrate a positive correlation between participation in community-driven programs and higher levels of environmental awareness. For instance, a study by Adebayo and colleagues (2022) in Nigeria found that community-led environmental campaigns significantly improved residents' knowledge about sustainable practices and climate change impacts. Similarly, in Kenya, Mutua et al. (2023) observed that active community participation in environmental clubs increased awareness and willingness to adopt conservation measures.

Participation not only raises awareness but also influences behavior change. According to Li and colleagues (2022), community-based communication initiatives foster social norms around conservation, leading to increased participation in waste management, tree planting, and pollution reduction activities. While effective, these initiatives face challenges such as limited funding, inadequate capacity, and cultural barriers (Ogunleye & Adeyemi, 2023). Nonetheless, integrating modern communication technologies and fostering inclusive participation can enhance their reach and impact.

2.2 Empirical Studies

One prominent study by Okafor et al. (2020) examined the influence of mass media campaigns on environmental awareness in Benue State. The researchers found that consistent and targeted communication via radio and

television significantly increased residents' knowledge about environmental issues such as deforestation and waste management. The study underscored that the credibility of the media outlets played a crucial role in shaping public perceptions and motivating behavioral change. The findings suggest that strategic use of mass media can be a powerful tool in environmental advocacy.

Another relevant study conducted by Akinyemi et al. (2019) focused on the effectiveness of community-based communication strategies. They discovered that involving local leaders and community groups in designing and disseminating environmental messages led to higher engagement and better understanding of sustainability practices. Their research emphasizes that culturally sensitive communication strategies foster trust and facilitate community participation, which are vital for sustainable environmental initiatives.

A study by Eze and Nwankwo (2021) analyzed the role of social media platforms in raising environmental awareness among youths in Benue State. The results indicated that social media campaigns, when creatively executed, could reach a wider audience, especially the younger demographic. The study also highlighted the importance of interactive content and peer influence in promoting environmentally friendly behaviors. This underscores the potential of digital communication channels as cost-effective and far-reaching tools in environmental education.

Furthermore, the research by Omale et al. (2018) explored the impact of environmental education programs integrated into school curricula. Their findings revealed that farmers exposed to strategic educational communication demonstrated increased environmental consciousness and were more likely to participate in conservation activities. The study advocates for incorporating environmental messaging into formal education as a sustainable approach to fostering long-term awareness.

Lastly, a study by Udo and Ikpeme (2022) investigated the barriers to effective strategic communication in promoting environmental sustainability. They identified challenges such as limited funding, inadequate training of communication personnel, and low levels of community participation. The research recommends strengthening institutional capacity and fostering multi-stakeholder collaborations to overcome these barriers and enhance the effectiveness of communication strategies.

2.3 Theoretical Framework

This study is grounded on Environmental Communication Theory (ECT). This theory provides a valuable framework for understanding how strategic communication can effectively promote environmental sustainability awareness, particularly in contexts like Benue State. ECT emphasizes the importance of conveying environmental messages in ways that are culturally relevant, accessible, and engaging, thereby fostering behavioral change and policy support (Gordon & Meskell, 2014).

In the study of strategic communication's role in promoting environmental sustainability in Benue State, ECT underscores the need for tailored messaging that resonates with local values, beliefs, and practices. This approach ensures that communication strategies are culturally appropriate, increasing the likelihood of message acceptance and behavioral adoption (Miller & Riechert, 2014). For instance, leveraging local languages and traditional communication channels—such as community gatherings and local media—can enhance message reach and impact.

ECT also highlights the significance of framing environmental issues in ways that align with the audience's priorities and experiences. In Benue State, where agriculture is a primary livelihood, framing sustainability messages around the benefits for farming and food security can be more effective than abstract environmental concepts (Nisbet, 2009). This strategy fosters a sense of relevance and urgency, motivating communities to engage in environmentally sustainable practices.

Furthermore, strategic communication informed by ECT involves the use of credible messengers, such as local leaders, farmers, and youth groups, to enhance message credibility and trust. Building relationships with these stakeholders can facilitate community participation and collective action towards sustainability goals (Hansen & Machin, 2015).

Media plays a pivotal role in this process, with traditional and new media platforms serving as tools for disseminating messages widely and repeatedly. The application of ECT suggests that consistent, clear, and culturally sensitive messaging across various channels can reinforce awareness and motivate sustainable behaviors (Corbett & Durfee, 2010). Overall, utilizing Environmental Communication Theory in studying strategic communication in Benue State underscores the importance of context-specific, culturally grounded, and multi-channel approaches. This enhances the effectiveness of communication efforts aimed at raising environmental awareness and fostering sustainable development within local communities.

3.1 Methodology

This study employs a cross-sectional survey design. The target population includes residents of Benue State, key stakeholders such as representatives from environmental agencies, community leaders, educators, and media professionals engaged in environmental communication. A sample size of 131 respondents was selected for the study. Data was collected using a self-administered questionnaire consisting of structured, close-ended questions rated on a four-point Likert scale, ranging from 1 = strongly agree to 4 = strongly disagree. Respondents were asked to select the option that best represented their views, with options labeled as strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD). A total of 131 questionnaires were distributed and collected. The Chi-Square test was used to evaluate the formulated hypotheses. Hypothesis testing involved the use of the standard error test, and decisions to accept or reject hypotheses were based on the following rule: if the P-value (sig.) is greater than 0.05 ($P > 0.05$), the null hypothesis (H_0) is rejected; conversely, if the P-value is less than 0.05 ($P < 0.05$), the null hypothesis is accepted, and the alternative hypothesis (H_1) is considered supported.

4.1 Result

Table 1: Chi-square on whether there is no significant association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State

Responses	O	Exp.	Df	Sign.	χ^2 cri	P.value	Decision
SA	50	32.75	3	0.05	7.82	166.5	Rejected
A	41	32.75					
D	8	32.75					
SD	32	32.75					

$P=0.00 < 0.05$; Tab. $X^2 = 7.82$

The result in Table 1 indicates that most respondents (69.5%) strongly agreed that there is significant association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State, while only 30.5% disagree. The chi-square calculated value of 166.15 is greater than the critical value of 7.82 at a 0.05 significance level with 3 degrees of freedom, the null hypothesis which state that there is no significant association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State is rejected. This suggests that there is significant association between exposure to strategic environmental communication and awareness of environmental sustainability issues among residents of Benue State.

Table 2: Present Chi-square test whether participation in environmental awareness programs no significantly associated with the adoption of sustainable environmental practices in Benue State

Responses	O	Exp.	Df	Sign.	χ^2 cri	P.value	Decision
Strongly agreed	79	32.75	3	0.05	7.82	108.7	Rejected
Agreed	46	32.75					
Disagreed	5	32.75					
Strongly Disagreed	1	32.75					

$P=0.00 < 0.05$; Tab. $X^2 = 7.82$

The data indicates that 95.4% of respondents believe participation in environmental awareness programs significantly associated with the adoption of sustainable environmental practices in Benue State, while 4.5% disagree. However, the chi-square test shows a calculated value (108.71) that is greater than the critical value (7.82) at a 0.05 significance level with 3 degrees of freedom. Therefore, the null hypothesis stating participation in environmental awareness programs no significantly associated with the adoption of sustainable environmental practices in Benue State is rejected. This suggests that participation in environmental awareness programs significantly associated with the adoption of sustainable environmental practices in Benue State.

Table 3: Chi-square test whether the frequency of exposure to environmental messages no significantly related to behavioral changes towards environmental conservation among residents of Benue State

Responses	O	Exp.	Df	Sign.	χ^2 cri	P.value	Decision
Strongly agreed	85	32.75	3	0.05	7.82	162.1	Rejected
Agreed	41	32.75					
Disagreed	3	32.75					
Strongly Disagreed	2	32.75					

$P=0.00 < 0.05$; Tab. $X^2 = 7.82$

The data shows that 96.2% of respondents believe the frequency of exposure to environmental messages significantly related to behavioral changes towards environmental conservation among residents of Benue State, with only 3.8% disagreeing. However, the chi-square value (162.1) is greater than the critical value (7.82), so the null hypothesis that the frequency of exposure to environmental messages no significantly related to behavioral changes towards environmental conservation among residents of Benue State is rejected. This indicates that the frequency of exposure to environmental messages significantly related to behavioral changes towards environmental conservation among residents of Benue State.

Table 4: Chi-square test whether participation in community-based environmental communication initiatives no significantly associated with higher levels of environmental awareness in Benue State

Responses	O	Exp.	Df	Sign.	χ^2 cri	P.value	Decision
Strongly Agreed	100	32.75	3	0.05	7.82.	155.3	Rejected
Agreed	29	32.75					
Disagreed	1	32.75					
Strongly Disagreed	1	32.75					

$P=0.00 < 0.05$; Tab. $X^2 = 7.82$.

In Table 4, the inferential statistics were used to test whether participation in community-based environmental communication initiatives no significantly associated with higher levels of environmental awareness in Benue State. The result showed that 98.4% of the respondents agreed as against 1.6% respondents who disagreed. Table 4 shows that the chi-square calculated value of 155.3 is greater than the chi-square tabulated value of 7.82 at 0.05 level of significance and 3 degree of freedom. The null hypothesis which states that, Participation in community-based environmental communication initiatives no significantly associated with higher levels of environmental awareness in Benue State is rejected. This implies that participation in community-based environmental communication initiatives significantly associated with higher levels of environmental awareness in Benue State.

4.2 Discussion of Research Findings

Analysis of data revealed shows a calculated value (108.71) that is greater than the critical value (7.82) at a 0.05 significance level. This suggests that participation in environmental awareness programs significantly associated with the adoption of sustainable environmental practices in Benue State. This is in agreement with the work of, Khan et al. (2021) who highlighted that targeted communication strategies significantly improve awareness levels among rural populations. Also, Mutua et al. (2023) who observed that active community participation in environmental clubs increased awareness and willingness to adopt conservation measures.

The analysis revealed the chi-square test shows a calculated value (108.71) that is greater than the critical value (7.82) at a 0.05 significance level. This suggests that participation in environmental awareness programs significantly associated with the adoption of sustainable environmental practices in Benue State. This corresponds with the view of Khan et al., (2021) who indicates that community-based environmental communication effectively increases awareness by leveraging local knowledge, cultural relevance, and trust within communities.

Also, the study revealed the chi-square value (162.1) is greater than the critical value (7.82). This indicates that the frequency of exposure to environmental messages significantly related to behavioral changes towards environmental conservation among residents of Benue State. This is agreement with Omale et al. (2018) who revealed that farmers exposed to strategic educational communication demonstrated increased environmental consciousness and were more likely to participate in conservation activities. Furthermore, the study equally showed the chi-square calculated value of 155.3 is greater than the chi-square tabulated value of 7.82 at 0.05 level of significance. This implies that participation in community-based environmental communication initiatives significantly associated with higher levels of environmental awareness in Benue State. This is also in agreement with Akinyemi et al. (2019) who discovered that involving local leaders and community groups in designing and disseminating environmental messages led to higher engagement and better understanding of sustainability practices.

4.3 Implication of the Findings

The study highlights how strategic communication can improve environmental awareness and encourage sustainable practices in Benue State. Its findings can help government agencies, environmental organizations, media, community leaders, and educators develop clear, locally relevant, and participatory messages. Accessible media and trusted community voices can promote informed action, while the research may also guide future studies on effective communication methods and lasting behaviour change.

4.4 Limitations of the Study

The study's findings are limited by its focus on Benue State, reliance on self-reported data, and barriers to accessing diverse participants and information. A cross-sectional design may not capture long-term effects, while other social and economic factors and differences in measurement could make communication's specific impact difficult to determine.

5.1 Conclusion

In conclusion, this study underscores the significant role of strategic communication in enhancing environmental sustainability awareness among residents and stakeholders in Benue State. The findings reveal that effective communication strategies positively influence perceptions and behaviors related to environmental conservation. To foster a sustainable future, it is essential for policymakers, environmental agencies, and media professionals to adopt targeted and culturally sensitive communication approaches. By doing so, they can improve public engagement, increase awareness and promote environmentally responsible practices within the community. Ultimately, strategic communication serves as a vital tool in driving environmental consciousness and ensuring the long-term sustainability of Benue State.

5.2 Recommendations

Based on the above findings and conclusion, it is recommended that:

- i. Government agencies, environmental organizations, and media outlets should collaborate to develop and disseminate targeted environmental messages through various channels such as radio, television, social media, and community outreach programs. Increasing the frequency and reach of these messages can improve residents' awareness of environmental sustainability issues.
- ii. Stakeholders should organize regular, accessible, and culturally relevant environmental awareness campaigns and workshops. Encouraging community participation can foster a sense of ownership and motivate residents to adopt sustainable practices.
- iii. To promote behavioral change, environmental messages should be disseminated consistently across different platforms and at regular intervals. Tailoring messages to address local environmental challenges can enhance their effectiveness in influencing conservation behaviors.
- iv. Community leaders, local organizations, and environmental groups should be supported to establish and promote community-driven environmental communication projects. These initiatives can facilitate peer learning, reinforce awareness, and promote sustainable practices at the grassroots level.
- v. Training programs should be organized for environmental communicators, community leaders, and media professionals to improve their skills in strategic communication and environmental messaging. This will ensure that communication efforts are impactful and resonate with the target audience.

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