

Article

Syntactic Construal of Ecological Crisis in Nigerian Climate Discourse

Cynthia A. Onuegwunwoke, Gloria U. Amadi, Florence D. Anuonye, Chinenye C. Olekaibe, Angela O. Nnadi, Kenneth U. Chukwu, Sebastine C. Nwankwo, Chinwe I. Ahumaraeze, Anaekperechi U. Agwuocha, Glory C. Opara, Appolonia I. Amadi, Nneka Emeka-Duru

Correspondence: Cynthia A. Onuegwunwoke, cynthia.onuegwunwoke@alvanikoku.edu.ng

Abstract

This study examined how syntactic choices were deployed to construe ecological crisis in Nigerian climate discourse. Anchored on Systemic Functional Linguistics (Halliday, 1985; 1994), the study adopted a qualitative, descriptive design with supplementary quantitative frequency analysis. Data were drawn from 45 Nigerian environmental texts published between 2018 and 2024, including climate change reports, advocacy materials, and media commentaries. The analysis focused on transitivity patterns, clause types, nominalization, and agency representation. Findings indicated a dominant use of material processes (72.3% of all process types) to represent environmental degradation, while human agency was frequently backgrounded through passive constructions and nominalized clauses – present in 68.9% of clauses describing ecological harm. This syntactic pattern tended to obscure responsibility and framed environmental crises as abstract or inevitable phenomena. The prevalence of declarative clauses (91.4%) suggested an informative rather than mobilizing discourse, limiting persuasive force. Grammatical metaphor further compressed complex ecological processes into dense nominal groups, distancing readers from the immediacy of environmental challenges. The study concluded that syntactic choices in Nigerian climate discourse significantly shape public perception of ecological crisis and responsibility. It recommends more agentive and action-oriented syntactic constructions in environmental texts to enhance ecological awareness and accountability. This study contributes to ecolinguistics and environmental humanities by demonstrating the crucial role of syntax in ecological meaning-making.

Keywords: Climate discourse, Ecological crisis, Nigerian texts, Syntactic construal, Systemic Functional Linguistics, Ecolinguistics

Introduction

In today's world, the increasing intensity of global ecological distress has drawn sustained scholarly attention to the role of the humanities in understanding, interpreting, and responding to environmental crises. Climate change, environmental degradation, and ecological instability are no longer viewed solely as scientific or technological problems. As Emeribe (2011) stresses, "Failure to detect a gross error in a survey can lead to a serious problem" (p. 51). They are now recognized as discursive phenomena whose meanings are constructed, circulated, and contested through language. Language functions not merely as a neutral medium for reporting environmental realities but as a powerful semiotic resource through which ecological experiences are shaped and understood.

In Nigeria, where environmental challenges such as flooding, desertification, erosion, deforestation, and oil-related pollution persist across regions, climate discourse has become an important site for examining how language mediates ecological knowledge and responsibility (Adeyemi, 2021, p. 44; Nwagbara, 2020, p. 118). Nigeria's ecological challenges are deeply intertwined with sociopolitical, economic, and historical factors,

particularly colonial legacies, extractive economic practices, and weak environmental governance. These realities are frequently represented in climate change reports, media commentaries, advocacy texts, policy documents, and educational materials, most of which are produced in English. As the official language of administration and education, English dominates climate discourse in Nigeria. Bamgbose (2019) explains that "it shapes how ecological problems are framed and interpreted by both elite and non-elite audiences" (p. 73). However, the effectiveness of this discourse depends not only on vocabulary choice but also on syntactic organization.

Scholars in Nigerian linguistics and discourse studies have increasingly acknowledged that grammatical structures play a crucial role in meaning-making. According to Alo and Oladipo (2020), "syntax, in particular, determines how experiences are ordered, how agency is assigned or obscured, and how causality is linguistically encoded" (p. 91). In climate discourse, syntactic choices like passive constructions, nominalization, and clause complexity often present ecological crises as abstract, inevitable, or natural occurrences rather than as outcomes of identifiable human actions. For instance, constructions like *environmental degradation has increased* or *flooding was experienced* foreground events while backgrounding human agents responsible for these outcomes. Nwagbara and Brown (2021) claim that "such syntactic patterns have significant implications for public understanding and environmental accountability" (p. 56).

Within Nigerian scholarship, studies on environmental discourse have tended to focus more on thematic framing, metaphor, ideology, and representation than on syntax per se. For example, Nwagbara's (2020) analysis of Niger Delta eco-poetry demonstrates how literary language encodes ecological suffering and resistance, revealing the ideological tensions between exploitation and environmental justice (pp. 121–123). Similarly, Adegoju (2018) examines media representations of environmental crises in Nigeria, highlighting how rhetorical strategies and evaluative language shape public attitudes (pp. 64–66). While these studies make valuable contributions, they often underexplore the grammatical mechanisms through which ecological meanings are structured.

The concept of syntactic construal is particularly useful for understanding ecological discourse because it emphasizes how grammar actively constructs versions of reality rather than merely describing preexisting facts. Halliday (2009) argues that "environmental problems are, to a large extent, problems of language because dominant grammatical patterns in modern English tend to privilege processes of exploitation, abstraction, and commodification" (p. 170). Nigerian scholars like Adejare (2019) echo this position, noting that "grammatical metaphor and dense nominal groups in formal English texts often distance readers from the lived realities of social and environmental problems" (p. 58). In climate discourse, nominalizations like *deforestation*, *pollution*, and *climate change* compress complex processes into abstract entities, thereby obscuring human participation and ethical responsibility.

Furthermore, syntactic construal intersects with Nigeria's multilingual ecology in important ways. Although English dominates official climate communication, many Nigerians operate primarily in indigenous languages whose grammatical systems encode ecological relationships differently. Studies in Nigerian sociolinguistics suggest that "indigenous languages often foreground relationality between humans and nature more

explicitly than English does" (Udoh, 2022, p. 89). However, when climate discourse is conducted almost exclusively in English, its syntactic patterns may marginalize indigenous ecological worldviews and limit public engagement. This observation aligns with ecolinguistic arguments that "language choices can either sustain or undermine ecological balance" (Fill & Penz, 2018, p. 6).

Recent Nigerian research on climate communication further highlights the challenges posed by complex syntactic structures in English texts. Oramah, Ngwu, and Odimegwu (2023) observe that "climate change materials circulated in Nigerian communities often employ highly technical language characterized by long clause chains, heavy nominalization, and passive constructions, which reduce comprehensibility and engagement" (p. 102). Their findings suggest that syntactic simplification and greater agentivity could enhance public understanding and promote behavioral change.

Media discourse remains a particularly important domain for examining syntactic construal of ecological crisis in Nigeria. Newspapers, online platforms, and broadcast media play a key role in shaping public narratives about flooding, erosion, oil spills, and climate-related disasters. Agwuocha (2024) demonstrates that "Nigerian newspaper reports on flooding frequently employ event-focused clauses that emphasize destruction while downplaying policy failures and human negligence" (p. 77). Such findings point to the ideological significance of syntactic choices in environmental reporting and their potential to normalize ecological crises as unavoidable rather than preventable.

Against this backdrop, the present study responds to calls for more linguistically grounded analyses of environmental communication (Adegoju, 2018; Nwagbara & Brown, 2021). It foregrounds syntax as a critical but underexplored dimension of ecolinguistic research in Nigeria and demonstrates how grammatical choices shape perceptions of agency, responsibility, and urgency in climate narratives.

Climate change and environmental degradation have become defining global issues of the twenty-first century, raising urgent questions about how language shapes public understanding and policy responses to ecological crises (van Dijk, 2015, p. 129). In Nigeria, Adesina (2018) notes that where climate variability manifests in increasing desertification in the North, flooding in the South, and diminishing biodiversity nationwide, discourse about environmental issues is not only a scientific or political matter but a linguistic phenomenon (p. 45). Fairclough (2013) notes that "language plays a central role in the representation and negotiation of environmental knowledge, influencing how ecological problems are framed, communicated, and understood by various stakeholders, including governments, media, and civil society" (p. 22). According to Halliday and Matthiessen (2014), among the linguistic components that shape discourse, syntax — "the arrangement of words and phrases to create well-formed sentences" — serves as a subtle but powerful mechanism through which conceptualizations of reality are constructed (p. 73). A syntactic analysis can reveal how grammatical structures foreground or background certain actors, actions, and consequences within climate talk, thereby influencing how responsibility and urgency are construed (Tannen, 2001, p. 84). For instance, passive constructions may obscure human agency in environmental destruction (*Flooding was experienced...*), while agentive active structures may underscore accountability (*Governments failed to...*), thus shaping public perception and policy discourse (Lakoff, 2010, p. 112).

In the context of Nigerian climate discourse, Ogunyemi (2019) explains that "existing research has predominantly emphasized semantic and lexical framing of ecological issues" (p. 159) or media representation strategies (Eze, 2020, p. 67). However, there remains a critical gap in exploring how syntactic choices contribute to the construction of environmental meaning and whether these choices reinforce particular sociopolitical positions or power relations. This syntactic lens is particularly important in multilingual and multi-sectoral settings like Nigeria, where climate discourse occurs across government reports, journalistic texts, educational materials, and grassroots campaigns (Mustapha & Bello, 2021, p. 231). This study therefore investigates how syntactic construal in selected Nigerian climate discourse texts contributes to the framing of ecological crisis, recognizing that linguistic structures not only reflect but also potentially shape environmental understanding and public engagement with climate change in Nigeria (Butt, Fahey, Spinks, & Yallop, 2000, p. 56).

Statement of the Problem

Despite growing global awareness of climate change and ecological degradation, the effectiveness of climate communication remains a major challenge, particularly in developing countries like Nigeria. Nigeria continues to experience severe ecological crises including flooding, desertification, erosion, oil pollution, deforestation, and climate-induced displacement. While scientific explanations of these phenomena abound, public understanding, engagement, and sustained action remain limited. One critical but often overlooked factor contributing to this challenge is the role of language – especially the syntactic structures through which ecological realities are communicated.

Climate discourse in Nigeria is predominantly conducted in English and circulated through policy documents, media reports, advocacy texts, and educational materials. Yet the grammatical patterns used in these texts may inadvertently obscure meaning, responsibility, and urgency. Existing Nigerian studies on environmental communication have largely focused on thematic framing, ideological positioning, metaphor, and rhetorical strategies, with little sustained attention to syntax as a meaning-making resource. As a result, there is insufficient understanding of how grammatical choices like transitivity patterns, clause types, passivization, and nominalization shape representations of ecological crisis. This gap is significant because syntax determines how actions, actors, and processes are linguistically organized, thereby influencing how ecological problems are perceived.

In the Nigerian context, this problem is particularly acute due to the country's complex sociopolitical environment and history of environmental injustice, especially in regions like the Niger Delta. Media and institutional texts often report ecological disasters using event-focused clauses that highlight destruction while downplaying accountability. For example, flooding is frequently described as having *occurred* or *been experienced*, without reference to deforestation, poor urban planning, or government negligence. Such syntactic patterns have the effect of backgrounding human agency and weakening demands for environmental responsibility. Consequently, climate discourse may unintentionally contribute to public apathy, resignation, or misdirected blame rather than mobilization and reform.

Furthermore, the dominance of English in Nigerian climate communication raises additional syntactic concerns. English, particularly in its formal and bureaucratic registers, is characterized by dense clause structures and heavy nominalization. For many Nigerians – especially those outside elite and academic circles – such syntactic complexity poses comprehension difficulties. When climate discourse is linguistically inaccessible, it limits public participation in environmental debates and reinforces existing inequalities in access to ecological knowledge. This situation undermines the democratic potential of climate communication and contradicts global calls for inclusive and people-centered approaches to environmental sustainability.

The lack of syntactic analysis in Nigerian climate discourse also affects environmental advocacy and policy implementation. Advocacy texts often aim to inspire action, yet their effectiveness may be constrained by declarative-heavy structures that inform rather than mobilize. Likewise, policy documents may rely on impersonal constructions that distance institutions from responsibility and reduce the perceived urgency of environmental interventions. Without a clear understanding of how syntax influences interpretation and response, efforts to improve climate communication risk remaining superficial and ineffective.

Another dimension of the problem lies in the interaction between syntax and ideology. Grammatical choices are not neutral; they reflect and reproduce particular worldviews. In Nigerian climate discourse, syntactic patterns may align with dominant political and economic interests by minimizing corporate culpability, normalizing environmental damage, or portraying ecological crises as unavoidable consequences of nature. This ideological function of syntax has not been sufficiently interrogated in existing Nigerian environmental studies, leaving a critical gap in understanding how language sustains environmental injustice.

Moreover, the absence of detailed syntactic studies limits the development of context-sensitive recommendations for improving climate communication in Nigeria. Without empirical evidence showing how specific grammatical structures affect meaning and agency, calls for clearer or more inclusive environmental language remain vague. There is therefore a need for systematic analysis that can identify problematic syntactic patterns and propose alternative constructions that foreground human responsibility, encourage action, and enhance public engagement.

In light of these issues, the central problem addressed by this study is the inadequate attention given to syntax in the analysis of Nigerian climate discourse and the implications of this neglect for ecological awareness and accountability. While environmental crises intensify across the country, the linguistic structures through which these crises are communicated remain underexamined. This gap not only limits scholarly understanding but also weakens the role of the humanities in responding meaningfully to global ecological distress. Addressing this problem requires a focused investigation into how syntactic choices in Nigerian climate discourse construe ecological crisis, assign or obscure agency, and shape public perception.

Objectives of the Study

The main aim of this study is to examine how syntactic structures are used to construe ecological crisis in Nigerian climate discourse and how these grammatical choices shape representations of agency, responsibility, and environmental meaning. The specific objectives are to:

1. Identify the dominant syntactic patterns used in Nigerian climate discourse.
2. Examine how transitivity choices in climate-related texts represent ecological processes and human agency.
3. Analyze the use of passivization and nominalization in the construction of ecological crisis.
4. Determine the implications of syntactic choices for ecological awareness and environmental accountability in Nigeria.

Research Questions

The study seeks to answer the following research questions:

1. What dominant syntactic patterns characterize Nigerian climate discourse?
2. How do transitivity structures in Nigerian climate texts construe ecological processes and human agency?
3. In what ways do passivization and nominalization influence the representation of ecological crisis in Nigerian climate discourse?
4. What are the implications of syntactic choices in Nigerian climate discourse for public ecological awareness and responsibility?

Theoretical Framework

This study is anchored on Systemic Functional Linguistics (SFL) as developed by Halliday. SFL offers a robust theoretical framework for investigating the relationship between syntax and meaning. Halliday (1985) argues that language is a resource for making meaning in social contexts, positioning grammar as functional rather than formal (p. 14). In SFL, the clause is viewed as a multifunctional unit through which experiential, interpersonal, and textual meanings are simultaneously realized. Of particular relevance to ecological discourse is the *ideational metafunction*, which concerns how language construes human experience through transitivity structures comprising processes, participants, and circumstances (Halliday & Matthiessen, 2014, pp. 213–215).

Nigerian linguists have increasingly adopted SFL to analyze various forms of discourse, including political speeches, classroom interaction, media texts, and literary works. Alo (2015), for instance, applies SFL to Nigerian political discourse and demonstrates how transitivity choices reflect ideological positioning and power relations (pp. 98–100). Similarly, Odebunmi (2017) uses SFL to examine newspaper discourse, showing how agency is manipulated through grammatical choices to protect institutional interests (pp. 41–43). These studies provide a methodological foundation for extending SFL analysis to climate discourse, where similar issues of power, responsibility, and ideology are at stake.

At the core of SFL is the notion that language is a system of choices, and that speakers and writers select from these options to achieve particular communicative purposes. Halliday (1985) argues that "every linguistic choice is motivated by the social functions language is expected to perform in a given context" (p. 10). Grammar, from this perspective, is not arbitrary but functional, shaped by the need to represent experience, enact social relations, and organize discourse coherently. This view contrasts with formalist approaches to syntax that prioritize structure over meaning and context. In SFL, syntax is inseparable from semantics and pragmatics, making it particularly useful for analyzing socially embedded discourses like climate communication.

A central principle of SFL is that language simultaneously realizes three metafunctions: the ideational, interpersonal, and textual. The **ideational metafunction** enables language users to construe experience and represent the external and internal worlds. According to Halliday and Matthiessen (2014), this metafunction is realized primarily through the system of transitivity, which organizes clauses in terms of processes, participants, and circumstances (pp. 212–215). In climate discourse, transitivity analysis allows researchers to examine how ecological processes such as flooding, pollution, or deforestation are represented, who is depicted as acting, and who is affected. For example, material processes may foreground environmental destruction, while relational processes may present ecological states as static conditions rather than dynamic outcomes of human activity.

The ideational metafunction is particularly relevant because it reveals how grammar encodes causality and agency. Halliday (2009) notes that "dominant grammatical patterns in modern English often obscure human responsibility for environmental damage through abstract nominalizations and passive constructions" (p. 170). This observation has significant implications for climate discourse, where the representation of agency influences how responsibility is perceived. In Nigerian climate texts, the frequent use of constructions such as *environmental degradation has increased* or *flooding was experienced* can be examined through SFL to determine how syntactic choices background human actors and naturalize ecological crises.

Closely related to transitivity is the concept of **grammatical metaphor**, another key analytical tool within SFL. According to Halliday and Matthiessen (2014), "grammatical metaphor occurs when meanings typically realized by clauses are instead expressed through nominal groups, resulting in dense and abstract constructions" (p. 724). While grammatical metaphor allows for compact and technical expression, it can also distance readers from concrete actions and lived experiences. In environmental discourse, nominalizations like *climate change*, *deforestation*, and *pollution* condense complex processes into abstract entities, potentially reducing the sense of urgency and obscuring human agency. SFL provides the theoretical apparatus for unpacking these structures and revealing their ideological implications.

The **interpersonal metafunction** concerns the enactment of social relations, attitudes, and evaluations. It is realized through mood structures, modality, and evaluative choices. Halliday (1985) explains that "through mood selection – declarative, interrogative, or imperative – speakers position themselves in relation to their audience and signal expectations about response" (p. 68). In climate discourse, the dominance of declarative

clauses may indicate an emphasis on information provision rather than persuasion or mobilization. Conversely, the use of imperatives and modal expressions can reflect attempts to prompt action or express obligation. Analyzing these choices within an SFL framework helps to uncover how climate texts position readers as passive recipients of information or as active participants in environmental action. Modality – expressed through modal verbs and adjuncts – plays a crucial role in expressing certainty, obligation, and probability. Statements like *governments must act* convey stronger obligation than *governments should act*, and SFL enables systematic analysis of such choices and their implications for environmental responsibility.

The **textual metafunction** concerns how language is organized into coherent and cohesive messages, realized through thematic structure, information flow, and cohesive devices. Halliday and Hasan (1976) emphasize that "thematic choices determine what is foregrounded as the point of departure of a clause" (p. 23). In climate discourse, placing ecological events rather than human actors in thematic position can subtly shape interpretation by foregrounding outcomes over causes. For example, clauses that begin with *flooding*, *erosion*, or *climate change* prioritize phenomena, while those beginning with *government policies* or *oil companies* foreground agency. SFL's emphasis on theme and rheme thus provides insights into how syntactic organization influences focus and emphasis in environmental texts.

One of the strengths of SFL as a theoretical framework lies in its explicit concern with context. Halliday and Hasan (1989) distinguish between context of situation and context of culture, arguing that "linguistic choices are shaped by broader social and cultural norms" (p. 5). This orientation makes SFL particularly suitable for analyzing Nigerian climate discourse, which is embedded in specific sociocultural, political, and economic contexts. Issues such as environmental injustice, governance, and multilingualism influence how climate issues are discussed and understood, and SFL allows these contextual factors to be integrated into grammatical analysis rather than treated as external variables. As Fill and Penz (2018) argue, "linguistic structures can either contribute to ecological harm or support sustainable ways of thinking and acting" (p. 4). Halliday's critique of environmentally destructive grammars reinforces the relevance of SFL for analyzing climate discourse.

Methodology

Research Design

This study adopted a qualitative, descriptive design with supplementary quantitative frequency analysis. The qualitative component examined how syntactic structures construe ecological crisis in Nigerian climate discourse; the quantitative component provided frequency distributions of syntactic patterns across the corpus.

Population

The population of the study consisted of Nigerian climate discourse texts produced in English. These included environmental policy documents, climate change reports, media articles, and advocacy materials addressing ecological issues such as climate change, flooding, erosion, deforestation, and environmental degradation in Nigeria.

Sample and Sampling Technique

A purposive sampling technique was employed to select texts relevant to the objectives of the study. The final corpus comprised **45 texts** published between 2018 and 2024, distributed as follows:

Corpus Composition

Text Type	Number of Texts	Source Examples
Newspaper articles	18	<i>The Guardian Nigeria, The Cable, Premium Times, Vanguard</i>
Policy documents	8	NIMET reports, Ministry of Environment documents
Advocacy materials	12	NGO publications (e.g., NESUG), civil society briefs
Official reports	7	UNEP Nigeria reports, government commission findings
Total	45	

Inclusion criteria required that texts (a) were published in English, (b) directly addressed climate change or ecological crisis in Nigeria, and (c) were produced by a recognized Nigerian or international source with Nigerian focus. Texts were excluded if they were opinion pieces under 200 words or purely scientific/technical documents without discursive framing.

Method of Data Analysis

Data were analyzed using qualitative content analysis informed by SFL principles, supplemented by frequency coding. The analytical procedure involved five stages:

1. **Clause segmentation:** Each text was divided into individual clauses for analysis (total: 1,247 clauses).
2. **Process type coding:** Each clause was categorized by process type (material, relational, mental, verbal, existential, behavioral) following Halliday and Matthiessen (2014).
3. **Agency and voice coding:** Clauses were coded for active vs. passive voice and for whether the grammatical Actor/Sensor/Sayer was human, institutional, or non-human/abstract.
4. **Mood and clause type coding:** Clauses were classified as declarative, interrogative, or imperative.
5. **Nominalization and grammatical metaphor identification:** Nominalized forms were identified and their frequency recorded.

To ensure coding reliability, 20% of the corpus (9 texts, 254 clauses) was independently coded by two members of the research team. Inter-coder agreement reached 89.4%, and discrepancies were resolved through discussion.

Data Presentation and Analysis

Sample Sources and Analysis

Source 1: *NESUG puts Nigeria's yearly loss to climate change at \$100b* (The Guardian Nigeria)

"Nigeria has been estimated to lose over \$100 billion yearly due to the impacts of climate change, including flooding, desertification, deforestation and air pollution."

The key clause — *Nigeria has been estimated to lose over \$100 billion yearly due to the impacts of climate change* — exhibits the following syntactic features:

- **Passive construction:** *has been estimated to lose* (non-agentive)
- **Nominalization:** *the impacts of climate change* (abstract entity representing complex processes)

The passive construction removes the agent (*by whom?*), deflecting responsibility from specific actors (e.g., government, policymakers). The nominalized phrase *the impacts of climate change* abstracts multiple climatic processes into one phrase, focusing attention on consequences rather than causes or agents. In SFL terms, this backgrounds human agency and foregrounds ecological loss as a condition rather than a socially mediated process.

Source 2: *Nigeria loses N11.5b to unprecedented flooding* (The Guardian Nigeria)

"...approximately 3,000 people were displaced, 200 lives lost, more than 265 houses destroyed..."

Three extracted clauses and their syntactic features are:

Clause	Process Type	Voice	Agent
<i>3,000 people were displaced</i>	Material (passive)	Passive	Unexpressed
<i>200 lives lost</i>	Material → nominal clause	Passive/elliptical	None
<i>265 houses destroyed</i>	Material	Passive (elliptical)	Omitted

Each clause uses a passive or non-agentive structure. The disasters are described as events that *happen* rather than actions caused by identifiable agents, obscuring responsibility. From an SFL perspective, this structure foregrounds the effects of flooding while backgrounding those responsible for mitigation (infrastructure planners, policymakers).

Source 3: *Floods, drought, coastal erosion, climate change impacts across Nigeria in 2025* (The Cable)

"...flooding affected 82,820 men, 133,407 women, 197,566 children..." and "...temperatures rose as high as 42°C."

Clause	Process Type	Voice	Actor
<i>flooding affected 82,820 men...</i>	Material	Active	Flooding (non-human)
<i>temperatures rose...</i>	Material	Active	Temperatures (non-human)

Here, *flooding* is presented as an agentive actor through the active verb *affected*, contrasting with earlier passive constructions. This foregrounds what the event does to participants (humans). Weather elements (*temperatures rose*) are described with material processes, making climate conditions themselves the distributed "actors." This can influence audience perception by emphasizing *what happens* rather than *why* or *by whom*.

Transitivity Patterns Across the Corpus

Material processes encode actions and events. Across the corpus, these were the most frequent process type. In many sampled texts, environmental destruction was represented through verbs like *erode*, *destroy*, *displace*, *submerge*, *degrade*, and *pollute*.

Example 1 (Climate Report): *Rising sea levels have submerged coastal communities in the Niger Delta.*

Here, *have submerged* is a material process, with *Rising sea levels* functioning as Actor and *coastal communities* as Goal. The syntactic configuration attributes agency to a naturalized phenomenon, presenting the crisis as a quasi-autonomous force.

Example 2 (Media Commentary): *Desertification continues to threaten livelihoods in Northern Nigeria.*

Again, *desertification* operates as grammatical Actor. The process *continues to threaten* construes environmental degradation as an ongoing action. However, the clause omits any human agents contributing to desertification (e.g., deforestation, poor land use policies). The syntactic structure foregrounds environmental effects while backgrounding anthropogenic causation.

Table 2: Distribution of Process Types Across Corpus

Process Type	Count	Percentage
Material	902	72.3%
Relational	215	17.2%
Mental	57	4.6%
Verbal	48	3.8%
Existential	19	1.5%
Behavioral	6	0.5%
Total	1,247	100%

Relational processes (e.g., *is*, *are*, *constitutes*, *remains*) were frequently used to define or classify environmental conditions.

Example 3 (Advocacy Document): *Climate change is a major threat to national development.*

The clause uses a relational identifying process (*is*), equating climate change with *a major threat*. While informative, such constructions frame ecological crisis as a static condition rather than a dynamic consequence of human activity.

Example 4 (Policy Statement): *Environmental sustainability remains a priority for the government.*

The relational process *remains* constructs sustainability as an abstract institutional value. No material action is encoded; commitment is linguistically asserted but not

operationalized. The prevalence of relational clauses contributed to an abstract conceptualization of crisis, reinforcing a discourse of description rather than intervention.

Mental processes (e.g., *recognize, acknowledge, believe*) and **verbal processes** (e.g., *state, announce, emphasize*) were less frequent but notable.

Example 5 (Government Report): *The government recognizes the urgency of climate action.*

The mental process *recognizes* encodes cognition but not action. The clause constructs awareness without material intervention.

Example 6 (Press Release): *The Ministry stated that urgent steps are being taken.*

The verbal process *stated* foregrounds speech over implementation. Such syntactic choices privilege discourse *about* action rather than action itself.

Passivization and Agent Erasure

Example 7 (Environmental Report): *Thousands of hectares of forest have been lost in the past decade.*

The passive construction *have been lost* omits the Actor responsible for deforestation. The grammatical subject *Thousands of hectares of forest* functions as Goal, not Actor. This syntactic pattern erases loggers, corporations, or regulatory failures from the clause.

Example 8 (Newspaper Article): *Oil spills were recorded across several communities.*

The passive verb phrase *were recorded* suppresses the agent responsible for the spills. Whether oil companies or pipeline vandalism are implicated remains unspecified. The consistent use of passive constructions shifts focus from perpetrators to consequences, aligning with what ecolinguists describe as the *erasure of agency* – where linguistic structures protect institutional actors from direct accountability.

Table 3: Voice Distribution in Clauses Describing Ecological Harm

Voice Type	Count Percentage	
Passive (agent unexpressed)	482	68.9%
Active with non-human Actor	152	21.7%
Active with human/institutional Actor	66	9.4%
Total (clauses describing harm)	700	100%
Actor Type	Count Percentage	
Non-human (flooding, erosion, climate change)	482	53.4%
Unexpressed/omitted	341	37.8%
Human or institutional (government, companies)	79	8.8%
Total (all clauses)	902	100%

Nominalization

Nominalization — the transformation of processes into nouns — was pervasive across the corpus.

Example 9 (Policy Document): *The implementation of mitigation strategies requires collaboration.*

Here, the verb *implement* becomes the noun *implementation*. This grammatical metaphor removes explicit Actors: *Who will implement the strategies?* The clause does not specify.

Example 10: *The destruction of wetlands has severe implications.*

Destruction encodes a material process but omits the destroyer. By converting verbs into nouns, the discourse compresses action into abstract entities, reducing perceived human involvement. Nominalization also increases lexical density, producing syntactically compact but semantically opaque clauses that may distance lay readers from the immediacy of ecological harm.

Clause Types and Mood

Most texts relied on declarative clauses.

Clause Type Count Percentage

Declarative	1,140	91.4%
Imperative	82	6.6%
Interrogative	25	2.0%
Total	1,247	100%

Declarative mood positions the speaker as provider of information and the reader as recipient. While suitable for reporting, this syntactic choice limits interpersonal engagement. **Imperatives** (e.g., *Act now*, *Reduce emissions*) were rare in official texts but more common in NGO advocacy materials. Even then, they were limited to constructions like *Communities must adopt sustainable practices* — which, although modalized, remains declarative rather than imperative. **Interrogatives** were virtually absent; questions like *Who is responsible?* or *What policies have failed?* could provoke critical reflection, yet the corpus favored unidirectional information delivery.

Grammatical Metaphor and Lexical Density

Grammatical metaphor was evident in dense nominal groups.

Example 11: *The rapid escalation of climate-induced displacement across vulnerable coastal settlements...*

This nominal group compresses multiple processes — *escalate*, *displace*, *affect* — into a single syntactic unit. While efficient in academic writing, such compression abstracts ecological crisis into technical terminology.

Example 12: *Integrated environmental risk management frameworks.*

This phrase condenses relational and material processes into layered modifiers. The ecological crisis becomes an object of managerial discourse rather than lived experience. The cumulative effect of grammatical metaphor is distancing: ecological harm is represented as a technical phenomenon requiring bureaucratic management rather than as an urgent human catastrophe.

Theme-Rheme Analysis

Theme-rheme analysis showed that environmental phenomena frequently occupied thematic position.

Example 13: *Climate change has intensified rainfall patterns.*

Example 14: *Flooding remains a major challenge.*

By placing *Climate change* and *Flooding* in initial position, clauses foreground environmental conditions as the starting point of discourse. However, themes such as *Oil companies*, *Policy failures*, or *Government negligence* were rare. Thematic choices thus contributed to framing crisis as environmental rather than socio-political.

Agency in Activist Texts: A Positive Case Study

While most texts backgrounded human agency, activist and citizen critique contexts provided notable exceptions. Consider the following example from a civil society press release:

Example 15 (Activist Text): *Youth groups have demanded that the government declare a state of emergency on flooding.*

Here, the material process *have demanded* features a human Actor (*Youth groups*) in an active construction, and the embedded clause specifies the demanded action (*the government declare a state of emergency*). This contrasts sharply with the passive, agentless constructions in mainstream media and policy texts.

Example 16 (Citizen Commentary): *Communities are calling on oil companies to clean up their spills.*

Again, a human Actor (*Communities*) performs an active material process (*are calling on*), and the target of the demand is a specific institutional actor (*oil companies*). Such constructions demonstrate that agentive, accountable syntax is available within Nigerian climate discourse — it is a matter of choice, not necessity.

These examples are valuable not only as counterpoints but as models for the kind of syntactic practice the study recommends. They show that alternative constructions exist within the same discursive environment and that foregrounding human agency does not require abandoning factual reporting.

Findings

Based on the analysis of 45 texts (1,247 clauses), the following findings emerge:

Finding 1: Material processes dominate, but with non-human actors. Material processes constituted 72.3% of all process types, reflecting an emphasis on actions and events. However, in 53.4% of material clauses, non-human phenomena (flooding, sea level rise, desertification) occupied the Actor role, shaping a narrative where climate itself is the primary agent. Only 8.8% of clauses featured human or institutional actors as grammatical subjects.

Finding 2: Human agency is systematically backgrounded through passivization. Passive constructions occurred in 68.9% of clauses describing ecological harm. Examples like *3,000 people were displaced* and *oil spills were recorded* omit the agents responsible, protecting institutional actors from accountability. Government action, institutional response, and policy accountability are seldom foregrounded syntactically, except in activist or citizen critique contexts.

Finding 3: Declarative clauses are overwhelmingly dominant. Declarative clauses accounted for 91.4% of all clauses, reflecting the informational and reporting nature of media and policy discourse. Imperatives (6.6%) and interrogatives (2.0%) were rare, restricting the interactive or engaging mood types that could mobilize public discussion or prompt action.

Finding 4: Verbal and mental processes qualify claims without allocating responsibility. Clauses like *experts said...* and *the government recognizes...* encode speech and cognition but not material action. Such constructions privilege discourse *about* action rather than action itself, allowing institutions to appear engaged without committing to tangible intervention.

Finding 5: Agentive constructions are available but restricted to activist contexts. In contexts of public outcry or activism, active human agency is expressed — e.g., *Youth groups have demanded that the government act* or *Communities are calling on oil companies* — providing valuable models of how language can foreground responsibility and call for action. These examples demonstrate that agentive syntax is a choice, not a structural limitation of English.

Implications

Implications for Environmental Governance and Public Perception

This study demonstrates that climate-related texts in Nigeria frequently deploy material processes with abstract or institutional actors, while human agents are often backgrounded or omitted. Such syntactic choices subtly diffuse responsibility and may weaken public accountability in environmental governance. When climate degradation is framed as something that *occurs* rather than something that *is caused*, public perception may shift toward inevitability rather than prevention. Policymakers and government agencies responsible for climate communication therefore need to be more deliberate in

their linguistic choices. Explicit syntactic constructions that foreground human and institutional agency – such as active clauses with clearly identified actors – can enhance transparency and responsibility in environmental policy discourse.

Implications for Climate Communication Strategy

The dominance of declarative clauses reflects an information-giving orientation, with limited use of interrogative or imperative clauses that could stimulate public engagement or action. Policy communicators may benefit from incorporating more varied clause types that encourage civic participation, behavioral change, and environmental stewardship. Interrogative clauses can provoke reflection on collective responsibility, while carefully framed imperatives can promote environmentally sustainable practices without sounding authoritarian. Linguistic sensitivity in policy documents can enhance their persuasive power and effectiveness.

The study also highlights how relational processes are often used to define environmental problems in abstract terms – climate change represented as a *challenge* or *threat*. While such constructions help conceptualize ecological issues, they may distance the public emotionally from lived realities. Policymakers should therefore balance relational clauses with material processes that vividly depict the consequences of ecological neglect on communities, livelihoods, and health, thereby strengthening the affective and experiential impact of climate communication.

Implications for Education and Pedagogy

The findings suggest the need for an interdisciplinary approach that integrates language awareness into climate education. Educational policymakers in Nigeria should consider embedding critical language studies – especially Systemic Functional Linguistics – into curricula at tertiary and possibly senior secondary levels. Such integration would empower learners to critically interrogate how language constructs ecological realities, power relations, and ideological positions in environmental discourse.

From a pedagogical standpoint, the study offers valuable insights for English language teaching, discourse analysis, and environmental literacy. Teachers can use climate-related texts as authentic materials for teaching grammar, syntax, and discourse functions. By analyzing transitivity patterns and clause structures in ecological texts, students can develop both linguistic competence and environmental consciousness. This dual benefit aligns with contemporary pedagogical goals emphasizing relevance, critical thinking, and social responsibility. The findings encourage a shift from purely structural grammar teaching to functional and meaning-oriented instruction. When students examine *why* certain actors are foregrounded or backgrounded in climate texts, they begin to understand grammar as a resource for meaning-making rather than a set of abstract rules.

The study also has implications for teacher training. Language teachers need to be equipped with the analytical tools of SFL to guide students in critically engaging with ecological texts. Workshops and training programs can focus on how syntactic choices reflect ideology, responsibility, and power in environmental communication. Assessment practices should similarly evolve: rather than assessing students solely on grammatical

correctness, educators can design tasks that evaluate students' ability to analyze and produce texts that responsibly represent environmental issues. For example, students might rewrite climate texts using alternative transitivity choices to foreground human agency, or compare the effects of active and passive constructions in environmental reporting.

Implications for Higher Education and Research

Universities and colleges – particularly departments of English and linguistics – can play a strategic role by encouraging research and classroom practices that link language use to national and global challenges such as climate change. By doing so, education becomes not only a site for knowledge transmission but also a platform for social transformation.

Conclusion

This study set out to examine how syntactic choices function as meaning-making resources in the construction of ecological and climate change discourse in Nigeria, using SFL as its theoretical framework. Through detailed analysis of 45 texts (1,247 clauses), the study demonstrated that grammar is not a neutral vehicle of communication but a powerful ideological tool that shapes how environmental realities, responsibilities, and solutions are represented and understood.

The analysis revealed a predominance of material processes (72.3%), reflecting an emphasis on actions and environmental impacts. However, these processes were frequently realized with abstract, inanimate, or institutional actors, while human agency – particularly that of policymakers, corporations, and communities – was often backgrounded through passive constructions (68.9% of harm-describing clauses) and nominalization. Such syntactic patterns contribute to a depersonalized representation of environmental degradation, potentially weakening accountability and public engagement.

The widespread use of relational processes served to define climate change in generalized and abstract terms – as a *challenge*, *threat*, or *phenomenon*. While these constructions facilitate conceptual understanding, they risk distancing audiences from concrete human and ecological consequences. The dominance of declarative clauses (91.4%) positioned climate discourse as largely informative rather than interactive, limiting opportunities for public interrogation, participation, and action. Grammatical metaphor further compressed complex ecological processes into dense technical nominal groups, rendering environmental harm an object of bureaucratic management rather than lived catastrophe.

By linking these syntactic patterns to broader communicative functions, the study demonstrated that linguistic choices significantly influence how climate change is framed, who is seen as responsible, and what forms of action appear possible or necessary. In the Nigerian context, where climate change poses urgent threats to livelihoods, food security, health, and environmental sustainability, the way climate issues are linguistically constructed has serious implications for public awareness, policy effectiveness, and behavioral change.

Significantly, this study also found that agentive, accountable syntax does exist within Nigerian climate discourse – in activist and citizen critique texts. This finding is crucial: it demonstrates that the passive, agentless patterns identified in mainstream media and policy discourse are choices, not inevitabilities. The presence of alternative constructions provides a practical basis for the recommendations that follow.

Overall, the study contributes to the growing body of ecolinguistic and functional linguistic research by foregrounding syntax as a critical site for understanding climate communication in Nigeria. It reinforces the relevance of SFL as a robust analytical tool for uncovering the ideological underpinnings of environmental discourse and highlights the need for more linguistically informed approaches to climate advocacy, policy communication, and education.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

1. **For government agencies and policy communicators:** Adopt more explicit syntactic structures that foreground human and institutional agency in climate discourse. Active clause constructions that clearly identify responsible actors can enhance accountability and foster a stronger sense of collective responsibility for environmental protection. For example, replacing *flooding was experienced* with *government failure to maintain drainage caused widespread flooding* shifts from passive inevitability to accountable causation.
2. **For climate communication strategy:** Move beyond predominantly declarative statements to include interrogative and imperative clauses that encourage reflection, participation, and action. Such syntactic variation can make climate messages more engaging and persuasive to diverse Nigerian audiences. Interrogatives like *Who is responsible for flood prevention?* can provoke critical thought, while imperatives like *Demand action from your local government* can mobilize without being authoritarian.
3. **For educational policymakers:** Incorporate critical language awareness and functional grammar into climate and environmental education curricula. Teaching learners how syntactic choices shape meaning will empower them to critically interpret and produce climate-related texts. This integration should begin at senior secondary level and be formalized in tertiary curricula.
4. **For English language educators:** Utilize climate discourse as authentic teaching material for illustrating transitivity, clause types, and ideational meanings. This approach promotes both linguistic competence and environmental consciousness among students. Assessment tasks should move beyond grammatical correctness to evaluate students' ability to analyze and produce texts that responsibly represent environmental issues.
5. **For professional development:** Organize training programs for teachers, journalists, and environmental communicators to enhance their understanding of the relationship between language and ecological responsibility. Such training will improve the quality and impact of climate communication in Nigeria.
6. **For researchers:** Undertake further interdisciplinary studies that combine linguistics, environmental studies, media studies, and public policy to deepen understanding of climate discourse across different genres and regions in Nigeria. Experimental studies testing how readers actually respond to different syntactic constructions would be particularly valuable.

7. **For future research scope:** Examine a wider range of texts, including social media discourse, indigenous language climate communication, and grassroots environmental campaigns, to provide a more comprehensive picture of ecological discourse practices in Nigeria. The interaction between English-medium formal discourse and indigenous-language ecological worldviews remains a particularly rich area for investigation.

Limitations of the Study

This study has several limitations that should be acknowledged. First, the corpus of 45 texts, while carefully selected, is not exhaustive. A larger corpus might reveal additional patterns or refine the frequency distributions reported here. Second, the analysis is interpretive and focused on the texts themselves; it does not include reader-response data, comprehension testing, or experimental evidence showing how readers actually perceive syntactic choices. Claims about the effects of syntax on public perception, while theoretically grounded, remain inferential. Third, the study examines only English-language texts, leaving the syntactic patterns of indigenous-language climate communication unexamined. Given Nigeria's multilingual context, this is a significant gap. Fourth, the purposive sampling technique, while appropriate for qualitative research, limits generalizability. Future studies with stratified or random sampling could strengthen the external validity of these findings.

References

- Adegoju, A. (2018). *Language, media and the construction of environmental issues in Nigeria*. Kraft Books.
- Adejare, O. (2019). *Language and style in Nigerian prose*. Heinemann.
- Adeleke, M. L. (2021). Climate change communication and public engagement in Nigeria. *Journal of Environmental Communication*, 15(4), 512–526. <https://doi.org/10.1080/17524032.2021.1892346>
- Adesina, A. (2018). *Environmental change and society in Nigeria*. University Press.
- Adeyemi, L. (2021). Environmental discourse and public engagement in Nigeria. *Journal of Nigerian English Studies*, 24(2), 39–52.
- Adeyanju, D. (2019). Language, ideology and environmental discourse in Nigerian media. *Discourse & Society*, 30(6), 635–652. <https://doi.org/10.1177/0957926519876842>
- Agwuocha, U. A. (2024). Flood narratives and media discourse in Nigeria. *GPH International Journal of Social Science and Humanities Research*, 7(3), 71–83.
- Alo, M. A. (2015). *Discourse strategies in Nigerian political communication*. Bookwright.
- Alo, M. A., & Igwebuike, E. E. (2020). Functional grammar and meaning construction in Nigerian newspaper discourse. *Journal of Pragmatics*, 162, 25–38. <https://doi.org/10.1016/j.pragma.2020.03.005>

- Alo, M. A., & Oladipo, S. (2020). Grammar, ideology and meaning in Nigerian public discourse. *Journal of the Linguistic Association of Nigeria*, 23(1), 85–99.
- Aremo, B. O., & Ajayi, T. M. (2018). Ecological crisis and discourse representation in Nigerian environmental narratives. *African Journal of Environmental Studies*, 12(2), 87–103.
- Bamgbose, A. (2018). *Language and society in Nigeria* (2nd ed.). Spectrum Books.
- Bamgbose, A. (2019). *Language and the nation: The language question in Nigeria*. Spectrum Books.
- Butt, D., Fahey, R., Spinks, S., & Yallop, C. (2000). *Using functional grammar: An explorer's guide* (2nd ed.). Macquarie University.
- Eggins, S. (2004). *An introduction to Systemic Functional Linguistics* (2nd ed.). Continuum.
- Emeribe, A. C. (2011). Understanding basic concepts and principles in surveying. In *Trend of development in environmental sciences and geoinformatics*. Supreme Publishers.
- Eze, C. (2020). Media representation of climate change in Nigeria: Patterns and implications. *Journal of Environmental Communication*, 14(2), 63–81.
- Fairclough, N. (2013). *Critical discourse analysis: The critical study of language* (2nd ed.). Routledge.
- Fairclough, N. (2015). *Language and power* (3rd ed.). Routledge.
- Fill, A., & Penz, H. (Eds.). (2018). *The Routledge handbook of ecolinguistics*. Routledge.
- Halliday, M. A. K. (1985). *An introduction to functional grammar*. Edward Arnold.
- Halliday, M. A. K. (2001). New ways of meaning: The challenge to applied linguistics. In A. Fill & P. Mühlhäusler (Eds.), *The ecolinguistics reader: Language, ecology and environment* (pp. 175–202). Continuum.
- Halliday, M. A. K. (2009). The grammatics of nature. In J. Webster (Ed.), *The essential Halliday* (pp. 169–181). Continuum.
- Halliday, M. A. K., & Hasan, R. (1976). *Cohesion in English*. Longman.
- Halliday, M. A. K., & Hasan, R. (1985). *Language, context, and text: Aspects of language in a social-semiotic perspective*. Deakin University Press.
- Halliday, M. A. K., & Hasan, R. (1989). *Language, context, and text: Aspects of language in a social-semiotic perspective* (2nd ed.). Oxford University Press.
- Halliday, M. A. K., & Matthiessen, C. (2014). *Halliday's introduction to functional grammar* (4th ed.). Routledge.

- hr/>
- Ibanga, D. A. (2020). Environmental degradation and climate change challenges in Nigeria. *Journal of Sustainable Development in Africa*, 22(1), 1-15.
- Igwebuike, E. E., & Alo, M. A. (2019). Ideational meaning and transitivity choices in Nigerian political discourse. *Linguistics and the Human Sciences*, 13(2), 147-165.
- Lakoff, G. (2010). *The political mind: A cognitive scientist's guide to your brain and its politics*. Penguin.
- Mustapha, S., & Bello, H. (2021). Climate justice and public discourse in Nigeria. *African Journal of Climate Policy*, 3(1), 225-245.
- Nigerian Meteorological Agency. (2022). *Climate review bulletin*. NIMET.
- Nwagbara, U. (2019). Climate change discourse and oil politics in Nigeria. *African Studies Quarterly*, 18(3), 45-63.
- Nwagbara, U. (2020). *Ecocriticism and Nigerian literature*. University of Port Harcourt Press.
- Nwagbara, U., & Brown, J. (2021). Language, ideology and environmental justice in the Niger Delta. *African Studies Quarterly*, 20(1), 53-65.
- Obeng-Odoom, F., & Aboagye, D. (2020). Climate change, extractivism and discourse in Africa. *Third World Quarterly*, 41(12), 2101-2119.
<https://doi.org/10.1080/01436597.2020.1765312>
- Odebunmi, A. (2017). *Critical pragmatics and media discourse in Nigeria*. LINCOM Europa.
- Ogunyemi, O. (2019). Framing environmental problems: Lexical analysis of climate change reports. *International Journal of Language Studies*, 13(4), 156-173.
- Oloruntoba, S. O., & Adeniyi, E. O. (2021). Climate governance and environmental communication in Nigeria. *African Journal of Political Science and International Relations*, 15(2), 43-56.
- Oramah, C. P., Ngwu, T. A., & Odimegwu, C. N. (2023). Language complexity and climate change communication in Nigeria. *Journal of Climate Communication in Africa*, 5(2), 97-110.
- Taiwo, R. (2015). Metaphor, ideology and the construction of climate change discourse in Nigeria. *Critical Discourse Studies*, 12(3), 321-338.
<https://doi.org/10.1080/17405904.2014.973476>
- Tannen, D. (2001). *Corpus linguistics and grammar*. John Benjamins.
- Udoh, I. (2022). Indigenous languages and ecological knowledge in Nigeria. *Journal of Nigerian Languages and Culture*, 15(1), 81-94.
- United Nations Environment Programme. (2021). *Making peace with nature*. UNEP.

United Nations Framework Convention on Climate Change. (2022). *Climate change adaptation in Africa*. UNFCCC.

Van Dijk, T. A. (2015). *Discourse and knowledge: A sociocognitive approach*. Cambridge University Press.

Publisher's Note/Disclaimer: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of NJH. NJH disclaims responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.