

Research Article

A Morpho-Semantic Analysis of Verbal Extension on Fulfulde Negation in Sardauna and Gashaka Local Government Areas of Taraba State, Nigeria

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ABSTRACT: *This study investigates the morpho-semantic features of verbal extensions on negation in Fulfulde, focusing on varieties spoken in Sardauna and Gashaka Local Government Areas of Taraba State, Nigeria. It examines the similarities and differences in negation patterns between these varieties and standard Fulfulde, and analyses how verbal extensions influence meaning in communication. The study is grounded in Aronoff's Morphological Theory and explores the interaction between morphological structures and semantic interpretation in negative constructions. A descriptive research design with a qualitative approach is employed, and data are collected through direct observation and native speaker intuitions. The research focuses on verbs ending in -ugo and -aago, which typically form negative markers with suffixes -ataa/-aayii and -ataako/-aakii, respectively. Findings reveal that verbs ending in -ugo maintain morphological consistency and semantic clarity across the studied varieties and the standard language. In contrast, verbs ending in -aago exhibit frequent misapplication of negative markers among Sardauna and Gashaka speakers, leading to morphological inaccuracies and potential semantic ambiguity. These patterns indicate emerging regional influences and instances of language change within Fulfulde verbal morphology. Overall, the study demonstrates that while Fulfulde verbal extension patterns are largely stable, localized variations highlight areas for language standardization and pedagogical focus. The results have implications for linguistics, language preservation, and the development of effective language education strategies in multilingual communities where Fulfulde functions as a lingua franca.*

KEYWORDS: *Morpho-semantics, Verbal extensions, Negation, Variation, Fulfulde, Language preservation.*

1. INTRODUCTION

Fulfulde, a major language spoken across several regions in Africa, carries significant cultural and social importance, particularly in Taraba State, Nigeria. Despite its prominence, comprehensive research on the language's verbal extensions, especially in the Sardauna and Gashaka varieties, remains limited. Verbal extensions, which modify verb roots to express grammatical relations and nuanced meanings, are central to understanding Fulfulde morphology. The paucity of research in this area creates a critical knowledge gap regarding the structure and function of the language. Furthermore, the interaction between Fulfulde's morphological patterns and semantic interpretation, particularly in negative constructions, is largely unexplored. These extensions not only serve as linguistic mechanisms for modifying meaning but also reflect the cultural and social practices of native speakers. Without a detailed investigation into how verbal extensions influence communication, our understanding of the language and its sociolinguistic context remains incomplete. The limited scholarly focus on negation within Fulfulde verbal extensions has broader implications for linguists, language educators, and documentation efforts. Failure to adequately document and analyse these patterns may hinder effective teaching, preservation, and sustainability of the language, particularly in the face of pressure from dominant languages. This study seeks to address these gaps by examining negation in Fulfulde verbal extensions, offering insights that advance both linguistic theory and practical strategies for language preservation and education.

The main aim of this study is to analyse the morpho-semantic features of Fulfulde verbal extensions in the study areas. The specific objectives include:

- i. To identify the similarities in negation in verbal extensions between the variety of Fulfulde spoken in Sardauna and Gashaka and the standard one.
- ii. To identify the differences in negation in verbal extensions between the variety of Fulfulde spoken in Sardauna and Gashaka and the standard one.
- iii. To analyse how negation on Fulfulde verbal extensions contributes meaning in communication.

This study holds significant value across multiple domains, including linguistic theory, cultural preservation, and practical applications in language education and communication. This study makes significant contributions by addressing the

underexplored morpho-semantic aspects of Fulfulde verbal extensions on negation, thereby enriching linguistic knowledge and advancing the typology of Niger-Congo languages. It also supports the preservation of Fulfulde by documenting its unique features amid the dominance of other regional languages, safeguarding cultural heritage. Additionally, its findings have practical value for education and communication in Taraba State, informing the development of literacy materials and enhancing multilingual interactions where Fulfulde serves as a lingua franca. Finally, it provides a foundation for future research, encouraging further exploration of language variation and contact in Fulfulde morphology.

2. RELATED LITERATURE REVIEW

The literature review includes books, journals, and internet sources, outlining key concepts, analysing existing studies, and applying morphological theory. These components provide the study's foundation, context, and connection to prior research.

2.1. CONCEPTUAL REVIEW

This section highlights the reviewed concepts, such as Fulfulde, morphology, Fulfulde morphology, the verbal system of Fulfulde, and related notions. The empirical review draws on relevant studies [3; 1], among others. The theoretical framework anchoring this study is the Morphological Theory as propounded in [4]. This framework serves as the foundational basis of the paper and facilitates a clear understanding of the flow of ideas.

2.1.1. FULFULDE

Fulfulde, also known as Fula or Pulaar, is a West Atlantic language of the Niger-Congo family spoken across West and Central Africa by the Fulbe people. Its wide geographical spread and large number of native and second-language speakers are well documented [16]. The language is characterized by a noun class system, complex verbal morphology, and extensive dialectal diversity. Structural consistency alongside dialectal variation has been observed across the Adamawa, Sokoto, Maasina, and Borgu varieties. Fulfulde is classified within the Atlantic branch of Niger-Congo and has distinctive morphological features. Its agglutinative nature, particularly in verbal extensions, has been emphasized. Dialectal diversity is especially notable in the Adamawa variety spoken in Taraba State, which serves as a linguistic reference point in several regions. The role of Fulfulde as a lingua franca and its interaction with dominant languages such as Hausa and English, influencing the evolution of verbal extensions, have been examined [8]. The need for sustained research into Fulfulde's linguistic structures has also been stressed. Advocacy for language preservation through formal education and sociocultural engagement is highlighted in recent scholarship. Overall, the literature confirms Fulfulde as a linguistically and culturally significant language with rich morphological features, particularly within its verbal system.

2.1.2. MORPHOLOGY

Morphology is the study of the internal structure of words and their meaningful components. It is defined as the analysis of how morphemes, the smallest units of meaning, combine to form complex words [5]. This is particularly relevant for agglutinative languages like Fulfulde, where affixation and root modification are central to word formation. Morphology plays a crucial role in encoding grammatical relationships, especially through verbal extensions such as causatives, reciprocals, and applicatives [19]. It also serves as a bridge between syntax and semantics [12]. The distinction between derivational and inflectional morphology, and their roles in expressing complex grammatical relations, has been widely discussed [22]. This study contributes by analysing Fulfulde verbal extensions, thereby enriching morphological theory through insights into how affixation and root modification encode grammatical and semantic relations.

2.1.3. FULFULDE MORPHOLOGY

Fulfulde exhibits a rich and agglutinative morphological system, particularly in its verbal and nominal constructions. Its verbs are structurally complex and heavily inflected, incorporating multiple extensions that encode grammatical and semantic distinctions such as causativity, reciprocity, and applicativity [3]. Suffixation is the dominant morphological strategy, rendering the language morphologically transparent yet semantically layered. Fulfulde morphology is closely tied to syntax, as verbal extensions directly affect argument structure and valency by modifying the number and roles of clause participants [26]. Dialectal variation further influences morphological patterns, with certain extensions showing greater productivity in specific regions [30]. This study contributes by examining the variation-sensitive nature of Fulfulde morphology and the interaction between grammatical principles and sociolinguistic factors in shaping verbal extensions.

2.1.4. VERBAL SYSTEM OF FULFULDE

The verbal system of Fulfulde is highly intricate, involving a range of morphological processes that encode grammatical relations and semantic nuances. Fulfulde verbs exhibit extensive inflectional and derivational morphology, primarily through suffixation, to express tense, aspect, mood, voice, and participant roles [3]. Verbal extensions play a central role in modifying verb valency, enabling the addition or suppression of arguments through causative, reciprocal, and applicative constructions [26]. Despite sustained contact with dominant languages such as Hausa and English, Fulfulde maintains a productive and

resilient verbal system, with dialectal variation enhancing rather than obstructing intelligibility [30]. This study reinforces the significance of verbal extensions in meaning formation and argument structure while highlighting their dialectal diversity.

2.1.5. MORPHOLOGY AND SEMANTIC INTERFACE

The morphology–semantics interface examines how morphological structures shape meaning. Morphology is both syntactic and semantic in nature, with morphemes contributing consistent meanings across contexts [23]. Verbal extensions, such as causatives, applicatives, and reciprocals, alter the argument structure and thematic role assignment. Derivational morphology often introduces semantic shifts, revealing meaning embedded within word structure [9]. In Fulfulde, verbal extensions modify verb meanings to express relational and participant-oriented nuances. The relationship between morphology and semantics is bidirectional, with each influencing the other [5]. This study demonstrates how Fulfulde verbal extensions exemplify the complex interaction between morphology and semantics.

2.1.6. SEMANTICS

Semantics is the study of meaning in language and is essential for understanding how words and sentences convey meaning in context [24]. In Fulfulde, semantic analysis focuses on how verbal extensions modify verb meanings to express causative, applicative, or reciprocal relations. The distinction between denotative and connotative meaning is particularly relevant in analysing semantic expansion through verbal extensions [21]. Morphological processes, such as verbal extension, significantly influence the meaning of action verbs [29]. Conceptual semantics further links verbal structures to cognitive representations, explaining how complex actions are encoded linguistically [17]. Cultural and contextual factors are also crucial for semantic interpretation in Fulfulde-speaking communities [15]. This analysis highlights the role of verbal extensions in shaping meaning through the interaction of morphology and semantics.

2.1.7. VERBAL EXTENSIONS

Verbal extensions are morphological modifications that alter verb meaning or grammatical function. They are a defining feature of many African languages, including Fulfulde, where they encode complex grammatical relations such as causativity, applicativity, and reciprocity [13]. Their importance in Niger-Congo languages lies in their ability to encode both syntactic and semantic relations within a single verb form [27]. In Fulfulde, verbal extensions enhance expressive capacity and communicative efficiency. These extensions also encode voice and valency distinctions, which are essential to understanding Fulfulde morphosyntax. Their sociocultural and pragmatic functions have also been noted [2]. Verbal extensions contribute to linguistic economy by allowing complex meanings to be expressed concisely. Thus, they are central to Fulfulde's morphological complexity.

2.2. EMPIRICAL REVIEW

This section reviews key studies on Fulfulde verb morphology and its interface with semantics. It highlights scholarly contributions that explain patterns of verb formation, while also identifying methodological and analytical limitations in existing works. These gaps, especially in sociolinguistic coverage, justify the need for a more comprehensive morpho-semantic investigation of Fulfulde verbs [7]. It explored the morphological transformation of verb suffixes in Fulfulde, focusing on the evolution of suffixation in verb conjugation. The study aimed to identify suffixes that have undergone phonological reduction, replacement, or obsolescence, signaling shifts in Fulfulde's verb morphology. The objectives included tracing historical forms, comparing them to contemporary usage, and analysing the direction of these changes. Rooted in morphological change theory and historical linguistics, the study revealed that certain verb suffixes, especially those marking tense and aspect, have been replaced by analytic constructions, particularly among younger speakers and in urban areas. However, the study's brevity limits its empirical depth, as it lacks examples, statistical analysis, and sociolinguistic considerations. It also overlooked regional or dialectal differences. This study opens a gap for a more detailed, regionally distributed, and empirically grounded investigation into verb suffix changes in Fulfulde, which this current research aims to address [2]. Conducted a morphosyntactic analysis of the Fulfulde voice and tense system in the Adamawa dialect, focusing on Yola South as a case study. The study aimed to explore the structure and productivity of voice categories (active, middle, passive) and their correlation with tenses (past, present, future). The research examined which voice-tense affixes remained productive and which were declining or obsolete. While drawing on traditional Fulfulde grammatical theories, the study lacked a deep theoretical framework and detailed methodology. The findings revealed a significant decline in several voice-tense combinations, indicating morphological simplification. However, the study was limited in empirical rigor, lacking statistical data, comparative analysis, and sociolinguistic considerations. It opened a gap that this present study aims to address: a sociolinguistically grounded, data-driven investigation that compares dialects and analyses the social and linguistic factors influencing morphological changes.

[1] conducted a detailed morpho-semantic study of adjectives in Fulfulde, focusing on their structural patterns and meanings within the broader grammatical system. The study aimed to explore how adjectives are formed morphologically and how their meanings interact with nouns in Fulfulde syntax. It identified adjective markers, categorized adjectives, and analysed the morphological processes involved, such as affixation and compounding. The study, anchored in structuralist grammar and lexical semantics, found that Fulfulde adjectives are limited in number and often derive from verbs and nouns. However, the study lacked a clear methodology and empirical data. Abdullahi's work highlighted the hybrid adjectival system in Fulfulde but

left a gap for further research into dialectal variation, sociolinguistic factors, and a more corpus-based, variationist analysis of adjectives across social contexts.

[14] investigated morpho-semantic priming in compound word recognition in Chinese and English, revealing strong transparency-based effects in both languages. While their findings support morpho-semantic integration across writing systems, the study is limited to written recognition tasks and excludes spoken processing. It also overlooks agglutinative languages like Fulfulde, where meaning is encoded through affixation rather than compounding. Additionally, the reliance on reaction-time data restricts deeper cognitive interpretation. Consequently, the study's framework does not adequately explain morpho-semantic processing in orally dominant, morphologically rich languages.

[18] examined Serial Verb Constructions in Fulfulde among non-native speakers in Sardauna, Taraba State, with emphasis on syntactic deviations and semantic redundancies arising from second-language interference. Although the study successfully highlights sociocultural and cognitive factors influencing fluency, it neglects the internal morphological and semantic mechanisms underlying verbal formation. The role of affixation in verb derivation, argument structure, and meaning extension is not explored. Its reliance on Universal Grammar and Sociocultural Theory further limits insight into Fulfulde's internal structure. The narrow sample scope also restricts regional morpho-linguistic variation.

2.3. THEORETICAL FRAMEWORK

This study is anchored on the Morpheme-based Theory, as developed by [19; 24; 40], which posits that words are composed of discrete, meaning-bearing units called morphemes. This model emphasizes the independent yet interactive role of morphology in word formation, particularly through processes such as affixation, compounding, and derivation, while it also interacts with Syntax and Phonology. It is especially effective for analysing agglutinative languages like Fulfulde, where words can be segmented into roots and suffixes. In Fulfulde verbal extensions, for example, suffixal morphemes such as *-ataa* and *-ataako* systematically modify the argument structure, valency, or aspectual interpretation of verb roots. This segmentation facilitates identifying how suffixes contribute to grammatical and semantic functions, such as introducing causative, applicative, reciprocal, or passive meanings, and raises analytical questions on how these derived functions are affected by clausal negation. The framework was validated in African linguistics by [4]. And [19; 24; 40] provides a robust tool for examining complex verbal systems. Grounding this study in Aronoff's theory thus enables a detailed exploration of Fulfulde verbal extensions in Taraba State, revealing their structural and semantic roles while offering broader insights into the language's morphological patterns and communicative functions.

3. METHODOLOGY

This study adopts a descriptive design and qualitative approach to analyse the linguistic data. Primary data is gathered through direct observation of native speakers' conversations, focusing on verbal extensions like negation markers for verbs ending with the suffix *“-ugo”* and others ending with the suffix *“-aagu”* with native speaker intuition helping to validate the data. Secondary sources, such as academic journals and textbooks, complement the field data. Data analysis follows Aronoff's Morphological Theory, examining the internal structure and semantic functions of verbal extensions through comparison. This approach provides a comprehensive understanding of Fulfulde verbal extensions, revealing how morphology shapes meaning in real communication.

4. DATA PRESENTATION AND ANALYSIS

This section presents data analyses on verbal negation in Fulfulde spoken in Sardauna and Gashaka LGAs, specifically focusing on the use of negation suffixes of verbs ending with *“-ugo”*, which have negation markers as *“-aayii”* and *“-ataa”*. While verbs ending with *“-aago”*, have negation elements as *“-ataako”* and *“-aakii”*. These highlight the morphological and semantic roles of negation as a suffix in Fulfulde Spoken in the study areas.

TABLE 1 Data on: verbs ending with the suffix *“-ugo”* have negation *“- aayi / -ataa”*

S/N	Standard variety	Regional variety	Morphological aspects	Semantic aspects
1.	Nyaam - ataa	Nyaam - ataa	Nyaamataa	will not eat
2.	Nyaam-aayii	Nyaam-aayii	Nyaamaayii	did not eat
3.	Juul-ataa	Juul-ataa	Juulataa	will not pray
4.	Juul-aayii	Juul-aayii	Juulaayii	did not pray
5.	Jaɓ-ataa	Jaɓ-ataa	Jaɓ-ataa	will not accept
6.	Jaɓ-aayii	Jaɓ-aayii	Jaɓ-aayii	did not accept
7.	Nan-ataa	Nan-ataa	Nanataa	will not hear
8.	Nan-aayii	Nan-aayii	Nanaayii	did not hear
9.	Haar-ataa	Haar-ataa	Haarataa	will not satisfy
10.	Haar-aayii	Haar-aayii	Haaraayii	did not satisfy

Source: Self

TABLE 2 Data on: verbs ending with the suffix“-aago” have negation “-ataako /-aakii

S/N	Standard variety	Regional variety	Morphological aspects	Semantic aspects
1.	Daan-ataako	Daan-ataa	Daanaakii	will not sleep
2.	Daan - aakii	Daan - aayii	Daanaakii	did not sleep
3.	Suum-ataako	Suum-ataa	Suumataakii	will not fast
4.	Suum-aakii	Suum-aayii	Suum-aakii	did not fast
5.	Laḅ-ataako	Laḅ-ataa	Laḅataako	will not shave
6.	Laḅ-aakii	Laḅ-aayii	Laḅ-aakii	did not shave
7.	Laam-ataako	Laam-ataa	Laamataako	will not rule
8.	Laam-aakii	Laam-aayii	Laamaakii	did not rule
9.	Born-ataako	Born-ataa	Bornataako	will not wear
10.	Born-aakii	Born-aayii	Bornaakii	did not wear

Source: Self

4.1. DATA ANALYSIS

Table 1 reveals key insights into the morpho-semantic structure of verbal negation in Fulfulde, specifically examining varieties spoken in Sardauna and Gashaka LGAs of Taraba State, Nigeria. The analysis focuses on verbal extensions marked by the negation suffixes *-ataa* (future negation) and *-aayii* (past negation), derived from verb roots ending in *-ugo*.

In line with Objective I, the finding shows a high degree of similarity between the regional and standard varieties. The morphological structure is consistent across the study areas, with no deviation in the morphological function of the suffixes. For example, *Nyaam-ataa* (“will not eat”) and *Nyaam-aayii* (“did not eat”) appear identically in both standard and regional forms. Regional forms like *Nyaamataa* or *Juulaayii* exhibit morphological similarities as showcased by the outcome of spoken variety in the study areas, as well as the standard variety.

Regarding Objective I, the semantic integrity of the verbal extensions is preserved across varieties. Moreover, the finding here shows that semantic similarities exist in both regional forms and the standard variety. For example, the form *Juulaayii* is semantically the same in both varieties, which showcases finality of the past action and retains the core meaning of “did not pray.” This aligns with [27] view that verbal morphology in African languages often encodes speaker intent.

In Table 2, the analysis expands Fulfulde verbal extensions by examining verbs ending in *-aago*, which are expected to take the negation suffixes *-ataako* (future) and *-aakii* (past). However, the findings reveal significant morphological overgeneralization in the regional variety of Sardauna and Gashaka.

In relation to Objective II, the analysis shows a divergence between the standard and regional variety. While standard Fulfulde correctly uses *Daan-ataako* (“will not sleep”) and *Daan-aakii* (“did not sleep”), regional forms such as *Daan-ataa* and *Daan-aayii* demonstrate the incorrect extension of negation markers *-ataa* and *-aayii*, which are appropriate only for verbs ending in *-ugo*. This suggests a breakdown in the application of morphological rules, where speakers overgeneralize more familiar suffix patterns, possibly because of their frequency or simplicity. Such overgeneralization is a known phenomenon in second language acquisition and dialect contact situations, as discussed by [17] and supported by observations in [27].

For Objective iii, this analysis shows morphological inconsistency, which contributes to effects on semantic clarity in communication. Although listeners may still infer the intended meaning from context, the improper use of negation suffixes can introduce ambiguity, especially in formal or written discourse. For example, *Suum-ataa* instead of *Suum-ataako* might be interpreted as applying the wrong verb class or tense, subtly altering the perceived time or nature of the action.

These findings, as shown from the analysis above, reinforce the importance of morphological precision in Fulfulde and underscore how deviation from expected verbal extension patterns, even if it is minor, can affect semantic interpretation. Thus, the study contributes to understanding regional variety and language change while offering insights valuable to languages, linguistics, and standardization efforts in Fulfulde-speaking regions.

5. SUMMARY OF FINDINGS

The study reveals that Fulfulde negation patterns show both stability and variation across the standard variety and regional varieties of Sardauna and Gashaka. For verbs ending with *-ugo*, regional and standard forms are highly similar, with correct use of *-ataa* (future negation) and *-aayii* (past negation). However, with verbs ending with *-aago*, regional varieties diverge by overgeneralizing these suffixes instead of the correct *-ataako* (future) and *-aakii* (past).

While semantic meaning is generally preserved, such morphological inconsistency introduces ambiguity, particularly in formal contexts. These findings highlight the stability of Fulfulde negation, the tendency toward overgeneralization in regional varieties, and the importance of precision for linguistic standardization and education.

6. IMPLICATIONS OF THE RESEARCH

The findings reinforce morphological theory by showing both stability and variation in Fulfulde negation. They demonstrate that while suffixes follow predictable patterns in certain verb classes, overgeneralization in others reflects natural processes of morphological simplification, analogy, and dialect contact. This supports [27] claim that African verbal morphology encodes intent but also adapts under usage pressure. It further extends morphological theory by evidencing how semantic clarity can persist despite structural deviations, suggesting resilience in language comprehension. Thus, the study enriches typological and morpho-semantic discussions on how languages balance rule-governed morphology with adaptive variation in multilingual contexts.

7. CONCLUSION

This study has examined the morpho-semantic features of Fulfulde verbal extensions, focusing specifically on negation patterns in both the standard dialect and the regional varieties spoken in Sardauna and Gashaka Local Government Areas of Taraba State, Nigeria. The finding reveals that, while there is a high degree of structural similarity between the varieties, particularly with verbs ending in *-ugo*, which correctly take the suffixes *-ataa* (future negation) and *-aayii* (past negation), the regional variety often introduces morphological inconsistencies. One prominent issue is the misapplication of the suffixes *-ataa* and *-aayii* to verbs ending in *-aago*, where the correct negative forms should be *-ataako* / *-aakii*. This indicates a lack of linguistic competence and intuition in distinguishing between verb classes and applying the appropriate negation suffixes.

Verbs ending in *-aago* show significant morphological errors in the regional varieties, with speakers overgeneralizing the more familiar *-ataa* / *-aayii* endings. This pattern of overgeneralization highlights a gap in morphological awareness, which in turn affects the semantic accuracy of communication. Above all, the study contributes to linguistic theory by highlighting both the stability and adaptability of Fulfulde morphology. It also supports language preservation and education efforts by identifying variations that deviate from the standard, particularly in morphologically complex constructions like negation. Addressing these variations can enhance mutual intelligibility, inform linguistic research and curriculum development, and help sustain the richness of Fulfulde as a language of wider communication in multilingual settings like the study areas.

In a nutshell, the study contributes to linguistic theory by affirming the morphological stability of Fulfulde negation while highlighting fossilized semantic nuances, aiding both cultural preservation and practical applications in linguistics, language education, and interethnic communication.

CONFLICTS OF INTEREST

The authors, ADAMU A. SIUTO and PROF. ABOKI M. SANI declares that they have no financial, personal, or professional relationships that could be construed as a potential conflict of interest concerning the publication of this paper. They affirm that there are no competing interests, including but not limited to financial gain, affiliations, or personal relationships, that may have influenced the research process, data interpretation, or the conclusions presented. The authors further confirm that the findings and opinions expressed in this study are entirely their own and were not influenced by any external party.

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