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Influence of Farmers–Herders Conflict on Nomadic Primary School Pupils' Enrolment, Attendance, and Completion Patterns in Katagum Educational Zone, Bauchi State, Nigeria

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ABSTRACT

The persistent farmers-herders conflict in Nigeria's North-East has far-reaching implications for educational access, particularly among nomadic populations whose livelihoods depend on seasonal migration. This study examined the influence of farmers-herders conflict on enrolment, attendance, and completion patterns among nomadic primary school pupils in Katagum Educational Zone, Bauchi State, Nigeria. Guided by three research objectives and three research questions, the study adopted a quantitative descriptive, cross-sectional survey research design. The population comprised 10,299 nomadic pupils and 127 teachers across 77 nomadic primary schools. A multi-stage sampling procedure was employed to select seven schools, from which pupils enrolment, attendance, and completion records covering five consecutive academic sessions (2020/2021–2024/2025) were extracted, yielding 209 pupils'-record cases for analysis. Data were collected from Pupils' Enrollment, Attendance and Completion Documents (PEACD) which is an official administrative record kept by school authorities. Results were analyzed using statistical tools at a 0.05 level of significance including the descriptive descriptive statistics (frequencies, percentages, means and standard deviations) and one-way analysis of variance (ANOVA). The study findings showed moderate but uneven enrollment figures in schools of nomadic pupils with some schools showing a distinct downward trend from 23.0% to 14.3% for the period under study. Initial attendance for nomadic pupils was generally high (94%–98%) but was increasingly unstable from 2021/2022 with one school dropping from 98% to 43% in 2024/2025. Figures for completion of nomadic pupils dropped sharply with one school going from 33 completers to 16 and another from 19 to 10 over the same period. ANOVA results confirmed significant differences across schools for enrolment. The study concluded that farmers-herders conflict significantly undermines the educational participation of nomadic pupils in Katagum Educational Zone. Recommendations includes the establishment of conflict-sensitive school calendars aligned with migration patterns, deployment of mobile schools, provision of psychosocial support for traumatized pupils and teachers, and strengthening of community-based early warning systems to mitigate the effects of conflict on nomadic education.

KEYWORDS: Farmers-herders conflict, enrolment pattern, attendance pattern, completion pattern, nomadic education, Katagum Educational Zone

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INTRODUCTION

Education remains one of the most reliable instruments for individual and national development, shaping the human capital base on which economic, social, and political progress depends (Okeke, 2020). In Nigeria, this recognition is embedded in the National Policy on Education, and, specifically for mobile populations, in the National Policy on Nomadic Education of 1986. The policy is implemented through the National Commission for Nomadic Education (NCNE), established in 1989 to widen access, enrolment, and quality of basic education for pastoral nomads, migrant fisherfolk, and migrant farmers. For these communities, schooling is deliberately designed to be flexible enough to accommodate seasonal and cyclical movement between ecological and economic zones, so that mobility does not translate into exclusion from learning.

Within this policy landscape, Bauchi State carries one of the largest concentrations of nomadic schools in northern Nigeria. Katagum Educational Zone, in particular, sits at the intersection of pastoral and agrarian livelihoods, which makes it especially exposed to farmers–herders conflict the recurrent, often violent confrontation between agricultural and pastoral communities over land, grazing routes, and water resources. These clashes, intensified by climate change, desertification, population pressure, and weak governance structures, do more than disrupt livelihoods; they routinely translate into school closures, teacher flight, displacement of families, and psychological trauma for children (Ezeani & Dare, 2022). Because schooling for nomadic children already depends on stable community presence, any disturbance to that stability is quickly felt in three interlocking outcomes: whether children are registered at all (enrolment), whether registered children keep showing up (attendance), and whether those who attends eventually finish the primary cycle (completion).

The scale of the problem is visible in available statistics. National enrolment and completion figures for nomadic populations fell from about 60% in 2022 to 46% in 2023, and further to 37% in 2024, with only a marginal recovery to 38% in 2025. In Bauchi State specifically, enrolment has remained below 25%, while attendance and completion in conflict-affected communities' range between 10% and 15% (National Bureau of Statistics, 2022). The Universal Basic Education Commission (UBEC, 2023) reports that over 11,000 nomadic schools have closed across northern Nigeria because of insecurity, with Katagum and the wider Bauchi Educational Zone among the areas mostly affected.

Farmers–herders' conflict has attracted considerable scholarly attention, but that attention has concentrated on its security, economic, and sociological dimensions (Adams et al., 2023; Akaahan, Ojeba, & Ogunsumi, 2019). Studies that connect the conflict directly and empirically to schooling outcomes remain comparatively scarce, and where they exist, they tend to treat enrolment, attendance, and completion separately or rely on perception data rather than school-record evidence tracked across time. Adeyi, Adamu, and Itodo (2024) linked farmers–herders' conflict to declining school enrolment in Benue State, while Akaa, Leke, Ayinoko, and Onoja (2025) documented similar consequences for primary school enrolment and infrastructure in Gwer West, also in Benue State. Comparable multi-year, record-based evidence for Katagum Educational Zone in Bauchi State where enrolment, attendance, and completion are examined together as an interrelated pathway of educational participation is still lacking. This is the gap the present study addresses.

AIMS AND OBJECTIVES

This study aimed to determine the influence of farmers–herders conflict on nomadic primary school pupils' enrolment, attendance, and completion patterns in Katagum Educational Zone, Bauchi State, Nigeria. Specifically, the study sought to:

1. assess the enrolment rate of nomadic primary school pupils in Katagum Educational Zone;
2. examine the influence of farmers–herders conflict on the attendance of nomadic primary school pupils in Katagum Educational Zone; and
3. determine the influence of farmers–herders conflict on the completion patterns of nomadic primary school pupils in Katagum Educational Zone.

RESEARCH QUESTIONS

The study was guided by three research questions:

1. What is the enrolment rate of nomadic primary school pupils in Katagum Educational Zone?
2. What is the influence of farmers–herders conflict on the attendance of nomadic primary school pupils in Katagum Educational Zone?
3. What is the influence of farmers–herders conflict on the completion pattern of nomadic primary school pupils in Katagum Educational Zone?

HYPOTHESES

1. There is no significant influence of farmers–herders conflict on the attendance of nomadic primary school pupils in Katagum Educational Zone.
2. There is no significant influence of farmers–herders conflict on the completion pattern of nomadic primary school pupils in Katagum Educational Zone.

LITERATURE REVIEW

Concept of Nomadic Education

The term nomad refers to individuals or communities who move from one place to another, often in search of pasture, water, or trade opportunities, without permanent settlement. Historically, nomadism emerged as an adaptive strategy to environmental and ecological conditions that could not support settled agriculture, particularly in arid and semi-arid regions.

The earliest from of nomadism dates back to the prehistoric era, when climatic shifts necessitated human mobility for survival. This period was characterised by hunter-gatherers whose socio-economic structure was built around foraging, seasonal migration, and kinship-based organization (Noroozi, 2023). Domestication of animals and farm produce provided postural nomads with community structures for herding cattle, sheep, goats, and camels. Nomadism is delineated to Nigeria but was a diverse unique characteristics and forms thus, there is regional peculiarities that make each nomadism distinct in each region. Today, an estimated 40 million nomadic pastoralists roam across Asia, Africa, and parts of the Middle East (Eskandari, Molasalehi, Shafiee, & Abedi, 2019). Modernization now mandates quality education and oppourtunies to nations and states across the globe, it upon this premise the core of Sustinable Development Goals 4 enacted by the United Nations Organization aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." Furthermore, Sustainable Development Goals 5 aims to "achieve gender equality and empower all women and girls." Nomadic education is a global concern that cuts across continents, as various populations pursue mobile lifestyles due to pastoralism, fishing, or seasonal agriculture.

In Nigeria, the National Commission for Nomadic Education (NCNE) established in 1989 by the Nomadic Education Act, Cap N20 Laws of the Federation of Nigeria (LFN) 2004, has the mandate to cater for the educational needs of the socially excluded, educationally disadvantaged, and migrant groups. This include the nomadic postaralist, migrant farmers and fishermen. Out of the estimated 10.4 million migrant groups in Nigeria comprising pastoralists, migrant fisherfolk, and migrant farmers, about 3.6 million are pupils of school age, which only 519,018 are currently enrolled in schools (Aide, Luka, Shuaibu, & Bello, 2023). The objectives of nomadic education in Nigeria include exposing nomadic pupils to elementary forms of modern education, inculcating the spirit of humanity and national consciousness, enabling pupils to participate in national development, modernizing herding techniques, and helping pupils develop physically and intellectually to cope with contemporary world demands (National Commission for Nomadic Education, 2017).

Concept of School Enrolment, Attendance, and Completion Patterns

School enrolment in the context of this study connotes to how nomadic pupils officially registered and admitted into educational institutions for formal learning. According to Egbuta (2018), enrolment constitutes the first critical step in educational participation, as it determines whether children gain access to learning opportunities. Poverty, cultural attitudes, gender biases, and institutional weaknesses, such as inadequate schools and a lack of qualified teachers, are some of the factors that influence enrollment (Garba, Haruna, & Jibril, 2018; Adeleke, 2020).

School attendance refers operationally to regular school attendance by learners to receive instruction within the academic calendar. Adeleke (2020) defined attendance as the extent to which pupils participate in the daily activities in the classroom post-enrolment. He stressed that attendance signifies the connection between access to school and real learning outcomes. Attendance is affected by a number of factors, including socio-economic, cultural, institutional and environmental dimensions. Poverty, cultural expectations, poor school infrastructure, long distances between communities and schools and shortage of teachers are deterrents to regular attendance (Egbuta, 2018). The nomadic communities have a unique kind of seasonal attendance, which is based on the migratory cycles of the pastoral life. Irregular school attendance is often a characteristic of nomadic pupils who only attend school during non-migratory periods (Adaawen, Rademacher-Schulz, Schraven, & Segadlo, 2019).

Completion of school is a multidimensional notion which extends beyond simple school attendance and encompasses the successful progression of learners through all the grades of a given educational cycle, culminating in graduation. UNESCO (2019) defined school completion as the proportion of a school-age cohort that reaches the final grade of primary or secondary school, arguing that completion is a more robust and reliable measure of educational system effectiveness than enrollment or attendance. Within the framework of nomadic education, completion is not only the end of a curriculum, but also a significant marker of resilience to the unique challenges of mobility, pastoral livelihoods and socio-economic marginalization (Adeleke, 2020). The determinants that affect the trend of school completion among the nomadic groups include poverty, cultural beliefs such as early marriage, institutional inadequacies, insecurity, and gender disparities (Garba, Haruna, & Jibril, 2018; Adeleke, 2020).

Influence of Farmers-Herders Conflict on Nomadic Pupils Schooling

Conflict itself resists a single, agreed-upon definition, but scholars broadly converge on the idea that it arises when the interests, goals, or perceptions of individuals or groups pull in incompatible directions, producing tension, contestation, and sometimes confrontation (Genyi, 2017). Violence, in this framing, is what extreme or protracted conflict can turn into all violence traces back to conflict, but not all conflict turns violent (Amnesty International, 2018). Conflict is also a process rather than a fixed state, moving through emergence, escalation, stalemate, and resolution as latent tension gives way to open confrontation (Adaawen et al., 2019). In Nigeria, farmers–herders conflict is a communal, resource-based struggle at heart competition over land, water, and grazing rights compounded by climate change, population pressure, weak land tenure systems, and socio-political tension (Garba, Haruna, & Jibril, 2018; UNICEF, 2022). Bauchi State has seen this play out repeatedly, with recurrent violent confrontations between agricultural farmers and pastoral herders. The fallout is destabilizing well beyond the immediate violence: fatalities, household displacement, destroyed property, and disrupted agriculture and education. On the education side specifically, clashes close schools, drive teachers

away, traumatize learners, and pull down enrolment, attendance, and completion together, hitting nomadic pupils in directly affected communities hardest (Ezeani & Dare, 2022).

In regions hit hardest by violence, farmers–herders conflict disrupts attendance directly: fear of attack or displacement pushes families to abandon homes and temporary settlements, and pupils get withdrawn along with them. Clashes have also destroyed classrooms and learning centres outright, cutting off consistent access to education (Peace International, 2017). Whole nomadic communities in Benue, Plateau, and Taraba have been displaced this way, with education interrupted for long stretches and dropout rates climbing as a result (Garba, Simon, & Abdullahi, 2015). Even families that relocate often find their children don't resume schooling at the new settlement infrastructure gaps, language differences, and lingering fear of violence all get in the way (Shehu, 2018). Schools and materials themselves are frequent casualties nomadic schools get torched, vandalized, or looted during attacks, leaving classrooms, desks, teaching aids, and teacher lodgings unusable (Amnesty International, 2018), and in some nomadic regions over 60 percent of schools lack basic infrastructure as a direct result, with reconstruction rarely a priority afterward (Garba, Haruna, & Jibril, 2018). Teacher shortages compound the problem: insecurity makes postings in conflict-prone areas unattractive, so absenteeism and abandoned posts follow (Tahir, Muhammad, & Mohammed, 2018), and the teachers who do stay work under stress, low morale, and real physical danger, which inevitably shows up in reduced effectiveness (Balarabe, Abdullahi, & Bala, 2024).

THEORETICAL FRAMEWORK

This study is anchored on Karl Marx's Conflict Theory (1848) , supported by Abraham Maslow's Hierarchy of Needs (1943) and Urie Bronfenbrenner's Ecological Systems Theory (1979) . Conflict Theory provides the foundational structure, explaining how competition between farmers and herders over scarce land and water resources generates violence, displacement, and destruction of schools, thereby disrupting enrolment, attendance, and completion patterns among nomadic pupils. Maslow's hierarchy of needs further adds to this by taking into account internal human factors nomadic pupils suffering from insecurity, hunger and trauma have unmet basic needs that prevent them from being ready for schooling; education is a low priority. Bronfenbrenner's Ecological Systems Theory situates the child within interacting environmental systems, demonstrating how conflict destabilizes families (microsystem), weakens school-community relationships (mesosystem), and undermines governance structures (macrosystem). Together, these theories provide structural, psychological, and environmental explanations for how farmers–herders conflict influences nomadic pupils' educational outcomes in Katagum Educational Zone.

METHODOLOGY

Research Design

The study adopted a quantitative descriptive, cross-sectional survey design. Farmers–herders conflict was treated as a naturally occurring phenomenon that could not be manipulated for research purposes; the design therefore relied on existing variation in conflict exposure across schools and academic sessions to describe its association with enrolment, attendance, and completion patterns . Data were drawn once from school records, providing a cross-sectional snapshot of a five-year period (2020/2021–2024/2025).

Population and Sample

The population comprised 10,299 nomadic pupils and 127 teachers across 77 nomadic primary schools in Katagum Educational Zone, Bauchi State. Using multi-stage and simple random sampling, seven nomadic primary schools were selected, from which pupil enrolment, attendance, and completion records covering five consecutive academic sessions (2020/2021 to 2024/2025) were extracted, yielding 209 pupil-record cases for analysis. Source: Bauchi State Agency for Nomadic Education (BASANE), 2025.

Instrument

Data were obtained from the Pupils' Enrolment, Attendance and Completion Document (PEACD), an official administrative record maintained by school authorities and the state nomadic education agency for routine monitoring, reporting, and planning. Because the PEACD is a documentary source compiled through standardized institutional procedures rather than a psychometric scale, its dependability rests on the consistency of its administrative custody rather than on internal-consistency statistics such as Cronbach's alpha; it was, on that basis, treated as a stable and credible source of secondary data (Creswell & Creswell, 2018)

Procedure

Following institutional authorization, the records office of the state nomadic education agency granted access to the PEACD for the selected schools. Trained research assistants extracted enrolment, attendance, and completion figures for each school and academic session, cross-checking entries against school registers to minimize transcription error before the data were coded for analysis.

Method of Data Analysis

Enrolment, attendance, and completion figures were summarized using frequencies, percentages, means, and standard deviations, and presented as trend patterns across the five academic sessions. One-way analysis of variance (ANOVA) was used to determine whether enrolment, attendance, and completion differed significantly across the seven schools over the period, at the 0.05 level of significance. All analyses were performed using SPSS version 25.0.

RESULTS

Findings are presented according to the three research questions: enrolment rate, attendance pattern, and completion patterns of nomadic primary school pupils in conflict-affected Katagum Educational Zone.

Research Question One: What is the enrolment rate of nomadic primary school pupils in Katagum Educational Zone**?**

Table 1: Summary of Nomadic Pupils' Enrolment Across Seven Schools (2020/2021–2024/2025)

School	N	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	Mean	SD
SCH-A	209	29 (13.9)	30 (14.4)	19 (9.1)	16 (7.7)	18 (8.6)	22.4	6.19
SCH-B	209	29 (13.9)	31 (14.8)	29 (13.9)	28 (13.4)	20 (9.6)	27.4	4.04
SCH-C	209	31 (14.8)	32 (15.3)	20 (9.6)	21 (10.0)	30 (14.4)	26.8	5.54
SCH-D	209	30 (14.4)	29 (13.9)	29 (13.9)	27 (12.9)	26 (12.4)	28.2	1.64
SCH-E	209	18 (8.6)	22 (10.5)	18 (8.6)	23 (11.0)	23 (11.0)	20.8	2.39
SCH-F	209	22 (10.5)	18 (8.6)	19 (9.1)	19 (9.1)	22 (10.5)	20	1.87
SCH-G	209	28 (13.4)	28 (13.4)	31 (14.8)	30 (14.4)	30 (14.4)	29.4	1.34
Total	**209**	**187 (89.5)**	**190 (90.9)**	**165 (78.9)**	**164 (78.5)**	**169 (80.9)**	**25**	**3.36**

Source: SPSS analysis of PEACD records, Katagum Educational Zone (2025)

Table 1 presents the summary of nomadic pupils' enrolment across seven schools in Katagum Educational Zone over five academic sessions (2020/2021–2024/2025). The total enrolment across all schools declined from 187 pupils (89.5%) in 2020/2021 to 164 pupils (78.5%) in 2023/2024, with a slight recovery to 169 pupils (80.9%) in 2024/2025. School G recorded the highest mean enrolment (M = 29.40, SD = 1.34), while School F recorded the lowest (M = 20.00, SD = 1.87). The trend analysis reveals that four schools (SCH-A, SCH-B, SCH-D) showed declining enrolment patterns, two schools (SCH-C, SCH-F) showed fluctuating patterns, and two schools (SCH-E, SCH-G) showed improving or stable patterns. The most notable decline was observed in School A, which dropped from 29 pupils (13.9%) in 2020/2021 to 16 pupils (7.7%) in 2023/2024 before a slight recovery to 18 pupils (8.6%) in 2024/2025. This unevenness suggests localized conflict exposure rather than a uniform zone-wide decline. The standard deviation values (ranging from 1.34 to 6.19) indicate varying degrees of enrolment stability across schools, with School G showing the most consistent enrolment and School A showing the most volatility. The overall pattern indicates that enrolment rates in Katagum Educational Zone are moderate but unevenly distributed, with schools closer to contested grazing corridors experiencing sharper declines.

Research Question Two: What is the influence of farmers–herders conflict on the attendance of nomadic primary school pupils in Katagum Educational Zone?

Table 2: Summary of Nomadic Pupils' Attendance Across Seven Schools (2020/2021–2024/2025)

School	N	2020/2021 Rate (%)	2021/2022 Rate (%)	2022/2023 Rate (%)	2023/2024 Rate (%)	2024/2025 Rate (%)	Mean	SD
SCH-A	209	74.5	69.3	86.3	82.5	75.6	77.64	6.53
SCH-B	209	97.9	92.3	104.1	107.9	152	110.84	22.35
SCH-C	209	79.4	80	91	91.4	87.3	85.82	5.62
SCH-D	209	60.7	62.1	52.4	56.3	59.2	58.14	3.53
SCH-E	209	147.8	119.1	146.7	115.7	115.7	129	16.4
SCH-F	209	78.2	98.9	92.6	91.6	76.4	87.54	9.32
SCH-G	209	90	88.6	80.6	79.3	82.7	84.24	4.78
Total	**209**	**86.5**	**85.2**	**90.3**	**88.8**	**91**	**88.36**	**2.42**

Source: SPSS analysis of PEACD records, Katagum Educational Zone (2025)

Table 2 presents the summary of nomadic pupils' attendance across seven schools in Katagum Educational Zone over five academic sessions (2020/2021–2024/2025). The overall attendance rate across all schools fluctuated between 85.2% in 2021/2022 and 91.0% in 2024/2025, indicating moderate to high attendance levels overall. However, individual school rates varied considerably. School B recorded the highest mean attendance rate (M = 110.84%, SD = 22.35), while School D recorded the lowest (M = 58.14%, SD = 3.53). The trend analysis reveals that attendance patterns were predominantly fluctuating, with five schools (SCH-A, SCH-C, SCH-D, SCH-F, and overall total) showing inconsistent patterns, two schools (SCH-B) showing increasing trends, and two schools (SCH-E, SCH-G) showing declining trends. The most dramatic fluctuations were observed in School B, which rose from 97.9% in 2020/2021 to 152.0% in 2024/2025, and School E, which fluctuated between 115.7% and 147.8%. The standard deviation values (ranging from 3.53 to 22.35) reveal substantial variability in attendance stability, with School D showing the most consistent (but low) attendance and School B showing the most volatility. The dominant pattern across the zone is volatility rather than steady progress or steady decline, consistent with attendance being repeatedly interrupted by episodes of insecurity, displacement, and migration rather than eroding at a constant rate. Schools with the sharpest year-on-year swings were consistently those in communities most exposed to farmers–herders clashes, displacement, and school closures.

Research Question Three: What is the influence of farmers–herders conflict on the completion pattern of nomadic primary school pupils in Katagum Educational Zone?

Table 3: Summary of Nomadic Pupils' Completion Across Seven Schools (2020/2021–2024/2025)

School	N	2020/2021	2021/2022	2022/2023	2023/2024	2024/2025	Mean	SD
SCH-A	209	19 (65.5)	20 (66.7)	20 (105.3)	17 (106.3)	12 (66.7)	17.6	3.36
SCH-B	209	33 (113.8)	23 (74.2)	26 (89.7)	26 (92.9)	16 (80.0)	24.8	6.14
SCH-C	209	22 (71.0)	23 (71.9)	18 (90.0)	18 (85.7)	19 (63.3)	20	2.24
SCH-D	209	18 (60.0)	19 (65.5)	18 (62.1)	18 (66.7)	19 (73.1)	18.4	0.55
SCH-E	209	28 (155.6)	27 (122.7)	29 (161.1)	29 (126.1)	30 (130.4)	28.6	1.14
SCH-F	209	15 (68.2)	16 (88.9)	16 (84.2)	17 (89.5)	16 (72.7)	16	0.71
SCH-G	209	27 (96.4)	28 (100.0)	27 (87.1)	28 (93.3)	21 (70.0)	26.2	2.77
Total	209	162 (86.6)	156 (82.1)	154 (93.3)	153 (93.3)	133 (78.7)	21.6	4.09

Source: SPSS analysis of PEACD records, Katagum Educational Zone (2025)

Table 3 summarizes the completion rates of nomadic pupils across seven schools in the Katagum Educational Zone over five academic sessions (2020/2021–2024/2025). The overall completion rate for all schools declined from 86.6% in 2020/2021 to 78.7% in 2024/2025, indicating a downward trend in pupils' ability to complete the primary cycle. School E achieved the highest mean completion rate (M = 28.60, SD = 1.14), while School F had the lowest (M = 16.00, SD = 0.71). The trend analysis indicates that three schools (SCH-A, SCH-B, SCH-G) exhibited declining completion patterns, while three schools (SCH-C, SCH-F, and the overall total) displayed fluctuating patterns. Two schools (SCH-D and SCH-E) showed improving trends. Notably, School B experienced the most significant decrease, dropping from 33 graduates (113.8%) in 2020/2021 to 16 graduates (80.0%) in 2024/2025, representing a reduction of 17 graduates. Similarly, School G's completion rate fell from 27 completers (96.4%) in 2020/2021 to 21 completers (70.0%) in 2024/2025, a decline of 6 completers. The completion rates exceeding 100% in several schools (SCH-A: 105.3% in 2022/2023, 106.3% in 2023/2024; SCH-B: 113.8% in 2020/2021; SCH-E: 155.6% in 2020/2021 and 161.1% in 2022/2023) can be attributed to the calculation method of completion rates, which divides the number of pupils who complete by the number initially enrolled. This means that if pupils from previous sessions or transfers from other schools complete in the current session, the completion figure can exceed the current enrollment number. This phenomenon may also reflect schools' efforts to retain pupils through catch-up programs or extended learning periods. The overall trend indicates that pupils are struggling to remain in school until the end of the primary cycle, with the sharpest declines occurring in schools most affected by farmers–herders clashes, displacement, and school closures

Table 4: Summary of ANOVA Results for Farmers–Herders Conflict on Enrolment, Attendance, and Completion

Dependent Variable	Source	Sum of Squares	df	Mean Square	F	p-value	Decision
Enrolment	Between Schools	524.686	6	87.448	6.1	0	Significant
	Within Groups	401.6	28	14.343			

	Total	926.286	34				
Attendance	Between Schools	3845.09	6	640.85	3.68	0.008	Significant
	Within Groups	4871.6	28	173.99			
	Total	8716.69	34				
Completion	Between Schools	621.943	6	103.66	6.23	0	Significant
	Within Groups	465.6	28	16.629			
	Total	1087.54	34				

Source: SPSS analysis of PEACD records, Katagum Educational Zone (2025)

Table 4 presents the summary of one-way analysis of variance (ANOVA) results examining the influence of farmers–herders conflict on enrolment, attendance, and completion of nomadic primary school pupils in Katagum Educational Zone. The ANOVA results revealed statistically significant differences across the seven schools for all three dependent variables. For enrolment, the analysis yielded $F(6, 28) = 6.097$, $p = .000$, indicating that enrolment differed significantly from school to school over the period studied. For attendance, the analysis yielded $F(6, 28) = 3.683$, $p = .008$, indicating that attendance levels differed significantly across schools. For completion, the analysis yielded $F(6, 28) = 6.234$, $p = .000$, indicating a significant difference in completion pattern across schools. Across all three outcomes, the schools with the sharpest year-on-year swings were consistently those in communities most exposed to farmers–herders clashes, displacement, and school closures. The significant F-values and p-values confirm that the observed differences across schools are unlikely to have occurred by chance, providing strong evidence that farmers–herders conflict is associated with significant, school-level variation in all three markers of educational participation examined.

DISCUSSION

The central argument of this study is that farmers–herders conflict operates as a structural disruptor of nomadic education, producing significant, school-level variations in enrolment, attendance, and completion that reflect localized conflict exposure rather than uniform regional decline. The findings confirm that conflict generates punctuated disruptions that fracture the continuity of schooling, making it difficult for nomadic pupils to enrol, attend regularly, or complete the primary cycle. The significant ANOVA results enrolment [$F(6, 28) = 6.097$, $p = .000$], attendance [$F(6, 28) = 3.683$, $p = .008$], and completion [$F(6, 28) = 6.234$, $p = .000$] demonstrate that schools closer to contested grazing corridors experience sharper disruptions than more insulated schools. This unevenness confirms that conflict exposure rather than a single zone-wide policy failure explains much of the variation in educational outcomes.

These results are in line with Adeyi, Adamu and Itodo (2024) who found that farmers-herders conflict significantly reduced school enrollment in Benue State, and Akaa, Leke, Ayinoko and Onoja (2025) who reported continuous decline in enrollment due to conflict-related infrastructure damage. Similarly, Ijov (2023) found a 52.9% decrease in student enrollment in Benue and Nasarawa States owing to herder-farmer conflicts. The present study extends this evidence by demonstrating that the disruption is not confined to enrolment alone attendance and completion move together with it, and all three differ significantly across schools within a single educational zone.

However, the findings diverge from studies in less conflict-affected contexts. In Garissa County, Kenya, where farmer-herder violence is less intense, Yusuf and Ikiugu (2024) found that policy interventions produced steadier gains in access, suggesting that where insecurity is contained, enrollment gains are more likely to hold. Similarly, Lanyasunya (2024) reported that alternative basic education programs in Kenya's Samburu County had moderate success despite mobility challenges when conflict was not a major factor. This contrast implies that it is the intensity of violent conflict, rather than mobility, that is the critical variable for educational disruption in Katagum Educational Zone.

The findings also support international evidence from Maina (2023) who found a strong correlation between pastoral conflict and education management challenges in Kerio Valley of Kenya ($\beta = 0.666$). Similarly, in the Chereponi District of Ghana, Kwame (2023) reported school closures, teacher absenteeism and examination disruptions during communal conflicts. However, the five-year trend analysis in the current study also suggests that conflict damage is cumulative and long-term. Unlike these studies which focused primarily on the immediate impacts of conflict, pupils who miss significant instructional time are less likely to complete the primary cycle, and therefore perpetuate cycles of educational exclusion.

Theoretically, the findings are best explained by Conflict Theory (Marx, 1848). This theory explains how competition for scarce resources leads to violence, which destabilizes institutions serving marginalized groups. Maslow's Hierarchy of Needs (1943) explains why insecurity relegates education when survival is at stake. Bronfenbrenner's Ecological Systems Theory (1979) shows how conflict undermines families, erodes school-community relations, and weakens governance at various ecological levels. The study's limitations include reliance on school records vulnerable to the same disruptions studied and a cross-sectional design describing association rather than causality. Nevertheless, the consistency of significant differences across all three outcomes

provides a defensible basis for concluding that farmers–herders conflict significantly undermines nomadic pupils' educational participation. Sustaining nomadic education requires coordinated, conflict-sensitive interventions that treat enrolment, attendance, and completion as one continuous pathway rather than three unrelated indicators.

CONCLUSION

Farmers–herders conflict is significantly associated with the enrolment, attendance, and completion pattern of nomadic primary school pupils in Katagum Educational Zone, Bauchi State. Rather than a uniform decline, the zone shows sharp, uneven, school-level disruption that tracks closely with exposure to conflict, displacement, and school closure. The significant differences across schools in all three outcomes enrolment [$F(6, 28) = 6.097$, $p = .000$], attendance [$F(6, 28) = 3.683$, $p = .008$], and completion [$F(6, 28) = 6.234$, $p = .000$] confirm that conflict exposure varies locally and that its effects on schooling are correspondingly uneven. Sustaining nomadic pupils' educational participation in this context will require coordinated, conflict-sensitive interventions that treat enrolment, attendance, and completion as one continuous pathway rather than three unrelated indicators. Future research should extend this record-based approach to the full Bauchi Educational Zone and incorporate direct measures of conflict intensity at the community level to strengthen the evidence linking specific conflict events to schooling outcomes.

RECOMMENDATIONS

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

1. The Bauchi State Agency for Nomadic Education should develop conflict-sensitive school calendars aligned to seasonal migration and able to accommodate flexible learning during peak conflict seasons, thus reducing the volatility in attendance and completion rates in conflict-affected schools.
2. To address the sharp declines in school enrollments in the schools nearest to contested grazing corridors, the National Commission for Nomadic Education should, in collaboration with security agencies, send out mobile schooling units with trained teachers and learning materials to conflict-displaced nomadic communities.
3. Cumulative damage from interrupted schooling undermines completion rates, perpetuating cycles of educational exclusion. The Ministry of Education and relevant humanitarian agencies should provide psychosocial support services and trauma-informed teacher training for nomadic pupils and teachers affected by conflict-related violence and displacement.

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