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INFLUENCE OF FOOD INSECURITY ON TEACHERS' PERFORMANCE AND MOTIVATION IN RURAL PUBLIC SECONDARY SCHOOLS IN ADAMAWA STATE OF NIGERIA

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ABSTRACT

This study explored the influence of food insecurity on teachers' performance and motivation in rural public secondary schools in Adamawa State, Nigeria. It examined how income levels affect teachers' performance, assessed the impact of the availability of agricultural products on teacher' motivation and identified the relationship between food availability and teachers' overall well-being. The study was guided by three research questions and anchored on Edward L. Deci and Richard M. Ryan's Self-Determination Theory (SDT), (1985), which emphasized the role of autonomy, competence and relatedness in fostering motivation and well-being. SDT was selected because it highlighted the importance of external factors such as food security and income, in meeting teachers' basic psychological needs, which directly affect their motivation and

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performance. The descriptive survey research design was employed and data were collected using a self-structured questionnaire. Stratified random sampling technique was used to select 500 teachers from rural public secondary schools across five purposively selected Local Government Areas (LGAs) in Adamawa State which are Yola North, Yola South, Numan, Mubi South and Gombi. These LGAs were chosen due to the high prevalence of food insecurity and their rural characteristics. Schools experiencing high teacher absenteeism and low academic performance, often linked to food insecurity, were specifically targeted. Data were analyzed using mean ratings. The findings indicated among others that lower income levels significantly undermine teacher performance, as financial stress from inadequate salaries diverts teachers' focus from their professional duties. The study concluded that adequate income levels and food availability are essential for ensuring that teachers can focus on their professional responsibilities and contribute positively to student outcomes. Addressing food insecurity through policy interventions, such as increasing teachers' salaries and providing access to agricultural products, is crucial for improving the quality of education in rural areas. Based on the findings, it was recommended among other things that the government should increase the income levels for rural teachers to alleviate financial stress and enhance job satisfaction. These would go a long way to allow teachers to focus more on their professional duties and personal growth.

Keywords: Food Insecurity, Teacher Performance, Teacher Motivation, Rural Public Schools.

Introduction

Rural education systems in many developing regions face persistent challenges that compromise teaching quality and learning outcomes. In Nigeria, public secondary schools situated in rural areas often contend with structural limitations, inadequate infrastructure and insufficient support for teachers. These conditions not only hinder effective instructional delivery but also place a considerable strain on the well-being and morale of educators. Within this already demanding environment, certain underlying socio-economic factors further complicate the professional realities of teachers. Exploring the dynamics that shape teachers' performance and motivation in these settings is essential for understanding the broader conditions affecting educational equity and effectiveness, particularly in underserved regions such as Adamawa State.

Teacher performance and motivation are critical components of the educational system, significantly shaping student outcomes and the overall quality of education. Motivated teachers are more likely to apply effective instructional strategies, foster positive classroom environments, and engage learners with enthusiasm and purpose. As Kadzamira (2017) noted, motivation drives teachers to encourage, inspire, and challenge their students, leading to improved academic achievement. A motivated teacher demonstrates higher commitment to the profession, often going beyond the minimum

expectations to ensure student success. Intrinsically motivated educators innovate in pedagogy and tailor instruction to meet students' diverse learning needs. Such teachers derive personal fulfilment from their students' success, which reinforces their dedication to teaching. Mertler (2018) highlighted that motivated teachers tend to be more resilient under challenging circumstances such as food insecurity, lack of infrastructure, or limited teaching resources, owing to their strong internal drive and sense of purpose. Furthermore, research has shown that a supportive school climate and sound disciplinary policies contribute to teacher motivation and classroom effectiveness. In this regard, Ikegbusi and Manafa (2023) emphasized that well-structured school discipline policies and healthy teacher-student relationships are pivotal in shaping teacher attitudes, enhancing classroom control and fostering a conducive environment for effective teaching and learning.

Beyond improving classroom performance, teacher motivation is crucial for minimizing attrition and enhancing professional satisfaction. Teachers who are highly motivated often report greater job satisfaction, a factor essential for long-term retention in the profession. Mwamwenda (2019) affirmed that feelings of recognition, respect and institutional support reinforce teacher morale and decrease the likelihood of burnout or resignation. Teacher continuity, especially in rural contexts, provides students with stability and consistent academic mentorship. Frequent turnover, by contrast, disrupts the learning process and adversely affects student outcomes. Moreover, motivated teachers tend to play leadership roles within their schools, mentoring novice educators, contributing to positive school culture, and participating actively in school improvement initiatives. Kwame (2021) found that schools characterized by high teacher motivation often exhibit higher student retention, improved academic performance and enhanced student morale. Reinforcing this, Ikegbusi and Manafa (2023) asserted that schools with clearly defined behavioural expectations and strong relational dynamics between staff and students cultivate an atmosphere that promotes professional engagement and instructional success. Therefore, fostering teacher motivation is not only beneficial for individual educators but also fundamental to building effective and sustainable educational systems, particularly in underserved rural communities.

Teacher performance and motivation are crucial to the success of any educational system, yet they are often hindered by a range of structural and socio-economic challenges. Among the most significant of these is food insecurity. This critical issue profoundly affects the professional capacity of teachers, particularly in rural settings. When teachers face difficulties in meeting their basic needs, such as access to adequate and nutritious food, their ability to function optimally in the classroom becomes severely compromised. As Ori (2021) observed, food insecurity is

closely linked to increased levels of stress, fatigue, and physical health complications, all of which detract from teachers' concentration, vitality, and overall job performance. Teachers burdened with concerns about their next meal are less likely to be fully present and engaged with their students, which undermines instructional delivery and student learning outcomes. Furthermore, the psychological toll of chronic food insecurity can increase absenteeism and teacher turnover, thereby destabilizing school operations and continuity. Musa (2022) emphasized that in Adamawa State, the income levels of teachers and the fluctuating availability of agricultural produce are among the most significant contributors to food insecurity, underscoring the socio-economic vulnerability of educators in the region.

In this context, income plays a pivotal role in influencing teacher motivation, job satisfaction, and instructional effectiveness. Adequate compensation not only improves teachers' standard of living but also strengthens their sense of professional identity and commitment to the teaching vocation. Salifu and Agbenyega (2020) affirmed that teachers with sufficient financial resources are more likely to be motivated, thereby demonstrating increased dedication to student achievement and active participation in professional development activities. Conversely, inadequate income leads to demoralization and disinterest, negatively affecting classroom performance. In such conditions, the role of robust instructional supervision becomes increasingly essential. Ikegbusi and Eziamaka (2016) asserted that effective supervision of instruction serves as a catalyst for enhancing teacher performance by providing necessary support, feedback and capacity building, especially in resource-constrained environments. Supervision that is both empathetic and developmental in nature can help mitigate the adverse effects of socio-economic stressors, such as food insecurity, by reinforcing teachers' instructional confidence and professional morale. Thus, addressing food insecurity while simultaneously strengthening instructional supervision frameworks is essential to improving teacher effectiveness and sustaining educational quality in rural Nigeria.

Also, the availability of agricultural products plays a crucial role in enhancing teacher motivation, particularly in rural areas where agriculture is a primary source of sustenance. When teachers have easy access to fresh and affordable agricultural products, it alleviates some of their financial burdens, allowing them to focus more on their professional responsibilities. Akinnagbe and Irohibe (2019) and Diao et al. (2020) asserted that the presence of abundant agricultural resources in a community can contribute to the well-being of teachers by reducing their cost of living, thereby increasing their disposable income. This financial relief can lead to improved job satisfaction and

motivation, as teachers feel more secure and supported in their environment.

This is, no doubts, what many teachers face in Nigeria today, especially in Adamawa state. Food insecurity in the Adamawa state is an inescapable issue, driven by a combination of factors including conflict, climate change and economic instability. The region has been severely affected by ongoing violence, particularly from insurgent groups, which has disrupted agricultural activities and displaced millions of people from their homes. This displacement has significantly reduced food production, leading to shortages and skyrocketing of food prices. As noted by Olofin (2021), the changing climate in the area has also exacerbated the situation, with erratic rainfall patterns making it increasingly difficult for farmers to cultivate crops. The resulting food scarcity has left many families struggling to meet their basic nutritional needs, contributing to widespread malnutrition and hunger.

It is widely recognized that teachers in rural areas of Adamawa state are not exempted from the challenges of food insecurity. Teachers grappling with food scarcity are often preoccupied with meeting their basic needs and those of their families, which detracts them from their ability to fully concentrate on their teaching duties. Musa (2022) asserted that many teachers in the region experience heightened stress due to inadequate access to food, leading to fatigue, poor health and a decline in overall well-being. This situation diminishes their engagement with students and increases rates of absenteeism and turnover, as some teachers may be compelled to seek alternative sources of income or relocate to regions with better living conditions. The cumulative effect is deteriorating in the quality of education, as food insecurity disrupts the essential framework required for effective teaching and learning. Therefore, this study aimed to examine the influence of food insecurity on teacher performance and motivation in rural public secondary schools in Adamawa state, providing insights into how this critical issue impacts the educational system in these vulnerable communities.

Statement of the Problem

In rural public secondary schools in Adamawa state of Nigeria, the problem of poor teacher performance and motivation has been a significant challenge, affecting the quality of education and the overall functioning of these institutions. Teachers in these areas often find themselves working under difficult conditions, with inadequate resources and minimal support from the educational system. This lack of motivation is evident in their approach to teaching, where the enthusiasm and commitment required to engage students and foster a conducive learning environment are often lacking. As a result, the educational experience of the students suffers, leading to a cycle of low academic achievement and limited opportunities for personal growth. The effect of poor teacher performance on

schools in these rural areas is profound. With teachers unable to deliver lessons effectively, students often find themselves struggling to grasp fundamental concepts, which hamper their ability to progress through the curriculum. The schools, in turn, become places where the potential of students is not fully realized and the broader educational goals set by the government remain unmet. The absence of a stimulating and supportive learning environment seems to discourage students from attending school regularly, further contributing to poor academic outcomes and an overall decline in the school's reputation.

In these rural schools, the lack of motivation among teachers is reflected in their limited interaction with students outside of formal teaching hours. Teachers who are motivated and committed to their work often engage with students beyond the classroom, offering additional support and mentoring. However, in Adamawa state of Nigeria, the disconnection between teachers and students is stark. This lack of engagement deprives students of the additional guidance they need to overcome learning challenges, resulting in a disengaged student body that is less likely to achieve academic success. The influence on students is particularly concerning. When teachers do not perform at their best, students are the ones who suffer the most. Their educational journey is tainted by inconsistency in teaching, a lack of inspiration and a curriculum that is poorly delivered. This leads to a situation where students leave school without the necessary skills or knowledge to succeed in further education or the workforce. The long-term consequences of this are significant, as these students are less likely to break the cycle of poverty that often characterizes rural areas in Adamawa state of Nigeria.

A key factor that can significantly enhance teacher performance and motivation in rural public secondary schools is the assurance of food security. Teachers who have access to sufficient and reliable food are more likely to be focused, healthy and motivated to carry out their duties effectively. The stability of food security not only supports teachers' physical health but also allows them to concentrate fully on their teaching responsibilities, free from the distractions of struggling to meet basic survival needs. However, in rural areas of Adamawa state, food insecurity remains one of the most pressing challenges faced by teachers. This persistent issue not only affects their personal well-being but also undermines their ability to engage with students, leading to diminished classroom effectiveness, higher absenteeism and increased turnover rates. Consequently, this impacts the overall quality of education in the region. Therefore, this study sought to examine the influence of food insecurity on teacher performance and motivation in rural public secondary schools in Adamawa state, aiming to shed light on this critical problem and suggest possible interventions to improve educational outcomes in these vulnerable areas.

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Purpose of the Study

The main purpose of the study is to investigate the influence of food insecurity on teachers' performance and motivation in rural public secondary schools in Adamawa state of Nigeria. Specifically, the study:

1. Examined the influence of income levels on teachers' performance in rural public secondary schools in Adamawa state of Nigeria.
2. Determined availability of agricultural products on teachers' motivation in rural public secondary schools in Adamawa state of Nigeria.
3. Identified the relationship between availability of food and teachers' well-being in rural public secondary schools in Adamawa state of Nigeria.

Research Questions

1. What is the influence of income levels on teachers' performance in rural public secondary schools in Adamawa state of Nigeria?
2. What is the effect of availability of Agricultural products on teachers' motivation in rural public secondary schools in Adamawa state of Nigeria?
3. What is the relationship between availability of food and teachers' well-being in rural public secondary schools in Adamawa state of Nigeria?

Scope of the Study

The scope of this study was geographically delimited to five rural public secondary schools located in five Local Government Areas (LGAs) of Adamawa state, Nigeria which are Yola North, Yola South, Numan, Mubi South and Gombi. These areas were selected due to their rural characteristics and high prevalence of food insecurity. The content scope of the study focused on three critical areas: the impact of income levels on teachers' performance, the effect of the availability of agricultural products on teachers' motivation and the relationship between food availability and teachers' overall well-being. This study was confined to examining how these factors influence teacher performance and motivation within the context of rural public secondary schools, providing a comprehensive understanding of how food insecurity affects the education system in these vulnerable communities.

Literature Review

Food Insecurity

Food insecurity refers to the lack of consistent access to adequate and affordable nutritious food, a critical issue that affects individuals and households across various regions, particularly in rural areas. It is not merely a matter of hunger, but a multifaceted problem that includes the uncertainty of obtaining food and insufficient nutritional quality. Arene and Anyaeji (2020) identified several driving factors of food insecurity, including poverty, unemployment, and the rising cost of food, all of which hinder people's ability to secure the necessary food resources for themselves and their families. In the context of educational institutions, administrative leadership plays a crucial role in mitigating the effects of food insecurity on

staff. As Ikegbusi (2016) emphasized, the management competencies of school principals, particularly in areas such as strategic resource allocation, staff welfare, and collaborative engagement with stakeholders, are vital for fostering a supportive and resilient work environment. When these competencies are deficient, challenges such as food insecurity may intensify, undermining teacher morale, professional performance, and overall institutional efficiency. Moreover, external crises such as the COVID-19 pandemic have further exposed the vulnerabilities of educational systems, especially in regions already grappling with resource constraints. Although primarily centred on student experiences, the study by Ikegbusi et al. (2022b) highlighted a range of systemic stressors, including inadequate infrastructural support and disrupted school operations, which also indirectly exacerbated challenges for teachers. The heightened pressure on educators during this period, coupled with limited access to welfare-enhancing provisions such as food and basic supplies, underscores how food insecurity is not only a socio-economic issue but a significant educational concern. This interconnection affirms the need for robust administrative responses that prioritize both teacher and student well-being during times of crisis and beyond.

The concept of food insecurity also encompasses the psychological and social repercussions that arise from the struggle to acquire sufficient food. Households affected by food insecurity often endure significant stress and anxiety due to the unpredictability of their food supply. This uncertainty can lead to unhealthy coping strategies, such as reducing meal portions, skipping meals, or compromising on the nutritional quality of the food consumed (Labadarios et al., 2018). As a result, individuals may resort to cheaper, less nutritious food options, which increase the risk of malnutrition and other related health problems. Food insecurity, therefore, is intricately linked to both physical and mental health, directly affecting overall quality of life (Barrett, 2021). In schools, these effects are often exacerbated by systemic administrative deficiencies, which hinder effective response mechanisms. Ikegbusi et al. (2022a) found that poor administrative structures and lack of strategic planning in public secondary schools significantly contribute to reduced teacher achievement and job satisfaction. This implies that in the face of food insecurity, weak institutional leadership may fail to provide adequate support, further diminishing teachers' ability to cope, perform and remain committed to their professional responsibilities.

Teachers' Performance

Teachers' performance refers to the effectiveness with which educators execute their instructional and professional responsibilities. It encompasses various dimensions, including lesson planning, classroom management, instructional

delivery, and the ability to engage and motivate students. Performance is typically assessed through multiple indicators, such as student achievement, classroom observations, and feedback from both students and colleagues. Adeniji and Omotayo (2021) posited that the quality of teachers' performance is a crucial determinant of the overall success of the educational process, as it directly impacts students' learning outcomes and academic achievement. In corroboration, Ikegbusi (2018) emphasized that when teachers perform effectively, students demonstrate higher academic attainment, while poor teacher performance, often resulting from systemic challenges such as inadequate welfare and food insecurity, leads to diminished learning experiences and suboptimal student outcomes.

The concept of teachers' performance is multifaceted, involving not only the technical aspects of teaching but also the interpersonal skills necessary for creating a supportive and inclusive learning environment. Effective teachers must possess a deep knowledge of their subject matter while also being skilled in communication, empathy, and adaptability. As noted by Okoye and Anyanwu (2019), these qualities are essential for tailoring teaching strategies to meet the diverse needs of students, thereby ensuring that all learners, regardless of their background or learning style, are given the opportunity to thrive. Furthermore, Ikegbusi and Eziamaka (2018) highlighted the importance of positive classroom climates in enhancing students' engagement, while Ikegbusi (2018) further argued that teachers' motivation, often influenced by their basic living conditions, including access to food and income stability, significantly affects their professional effectiveness. Therefore, addressing foundational needs such as food security is not only a matter of welfare but also a strategic imperative for improving educational quality.

In rural areas, such as those in Adamawa state, where food insecurity can significantly affect teachers' well-being, performance may be compromised. Teachers facing hunger and financial stress may struggle to maintain focus, energy and enthusiasm in the classroom. Therefore, addressing factors like food insecurity is essential to improving teacher performance and, by extension, the quality of education in these communities.

Teachers' Motivation

Teachers' motivation refers to the combination of internal and external factors that inspire educators to perform their duties with enthusiasm, dedication, and effectiveness. It plays a pivotal role in the teaching profession, as motivated teachers are more likely to engage in innovative instructional practices, maintain a positive outlook towards their work, and persevere through challenges. Adebayo and Olatunji (2020) highlighted that teachers' motivation can be driven by various sources, including personal fulfilment, recognition for their

efforts, opportunities for career growth, and a supportive working environment. Moreover, recent studies underscore the importance of institutional mechanisms that enhance teacher morale and satisfaction. For instance, Ikegbusi and Egwu (2024) found that participation in professional learning communities significantly improves teachers' job satisfaction, as these platforms encourage peer collaboration, knowledge sharing and collective problem-solving. Such environments not only help mitigate work-related stress but also act as critical support systems that sustain motivation and enhance teaching effectiveness.

Intrinsic motivation, which stems from an educator's passion for teaching and the satisfaction derived from helping students achieve success, is particularly crucial. Educators who are intrinsically motivated often find joy in the teaching process, viewing their students' progress as a rewarding experience in itself. Ejiogu and Ugwu (2018) asserted that this form of motivation is essential for sustaining long-term commitment to the profession, as it nurtures a deep sense of purpose and connection between teachers and their work. This perspective is further reinforced by Ikegbusi and Manafa (2023), who emphasized that healthy teacher-student relationships and positive school discipline policies play a fundamental role in shaping a teacher's emotional and psychological engagement with their job. When teachers feel respected and supported within the school climate, they are more likely to maintain a strong sense of professional identity and intrinsic satisfaction, which translates into improved classroom performance and student behaviour outcomes.

However, in regions where food insecurity is prevalent, such as rural areas in Adamawa state, teachers' motivation can be severely impacted. External stressors, such as the struggle to secure basic necessities like food, can diminish intrinsic motivation and negatively affect their enthusiasm, job satisfaction and overall performance. Addressing these external factors is vital to ensuring that teachers remain motivated and effective in their roles.

Theoretical Framework

Edward L. Deci and Richard M. Ryan Self-Determination Theory (SDT) (1985)

This study is anchored on Self-Determination Theory propounded by Edward L. Deci and Richard M. Ryan (1985). SDT is a theory of human motivation that emphasized the importance of individuals fulfilling three key psychological needs: autonomy**,** competence and relatedness**.** These needs are essential for fostering intrinsic motivation and psychological well-being, which are critical for effective performance and job satisfaction. This theory emphasized the role of intrinsic and extrinsic motivation in human behaviour and highlighted how meeting basic psychological

needs-such as autonomy, competence and relatedness can enhance motivation and well-being.

At the core of SDT is the idea that when basic needs are met, individuals experience higher levels of motivation and effectiveness. Food insecurity, which directly affects the basic physiological needs of teachers, is an obstacle to achieving these three psychological needs. When teachers are food-insecure, their autonomy and sense of competence in the workplace are compromised, resulting in lower motivation and diminished job performance. This makes SDT particularly relevant to understanding how food insecurity influences teachers in rural areas.

SDT emphasized the strong connection between well-being and motivation. Teachers in food-insecure environments are likely to experience stress and anxiety related to their inability to secure sufficient food for themselves and their families. This stress not only reduces their intrinsic motivation such as their passion for teaching but also influences their overall performance in the classroom. By using SDT, the study can explore how teachers' well-being, undermined by food insecurity, limits their professional effectiveness and satisfaction.

SDT is particularly useful because it integrates both external (extrinsic) and internal (intrinsic) factors that affect motivation. Food insecurity, an external factor, creates internal challenges for teachers, such as decreased self-esteem and focus, thereby negatively affecting their classroom performance and motivation. This theory allows for an examination of how external socioeconomic conditions influence internal states, leading to a decline in teacher productivity and motivation.

Unlike some traditional theories that focus narrowly on financial or resource-related aspects, SDT provides a more comprehensive framework that takes into account the psychological needs of individuals. In the context of rural public secondary school teachers in Adamawa state of Nigeria, SDT helps in understanding not just how food insecurity affects physical health, but also how it corrodes the psychological conditions necessary for best teaching performance.

When teachers lack access to sufficient and nutritious food, their ability to meet basic physiological needs (such as health and nutrition) is compromised. According to SDT, this distraction prevents them from fulfilling higher-level needs like competence and autonomy, which are essential for maintaining motivation. In the context of rural Adamawa state, where food insecurity is predominant, teachers may feel physically exhausted and mentally distracted, making it difficult for them to engage fully in their teaching roles.

Moreover, the lack of food security can affect teachers' sense of competence, a core aspect of SDT. When teachers are concerned about meeting their basic needs, they may feel less capable of performing well in their jobs. This erosion of competence

reduces their overall motivation, leading to lower levels of job satisfaction and effectiveness in the classroom.

Self-Determination Theory offers a strong foundation for exploring the relationship between food insecurity and teacher performance in rural public secondary schools in Adamawa state of Nigeria. Its focus on basic psychological needs aligns well with the challenges posed by food insecurity, allowing for a comprehensive analysis of how unmet needs reduce motivation and performance. In this context, SDT provides a modern and effective lens for understanding how food insecurity affects teachers' well-being, motivation and overall job satisfaction. By addressing food insecurity, stakeholders can help foster better teaching environments, ultimately improving educational outcomes in rural public secondary schools in Adamawa state of Nigeria.

Methodology

This study adopted the descriptive survey research design to investigate the influence of food insecurity on teacher performance and motivation in rural public secondary schools in Adamawa state, Nigeria. According to Ikegbusi (2022: 264), a survey research design allows for the collection and analysis of data from a representative sample of a population through instruments such as questionnaires or interviews. The descriptive survey design was chosen for this study as it enabled a comprehensive examination of teachers' experiences related to food insecurity and its impact on their professional performance and motivation.

Area of the Study

The study was conducted in Adamawa state, located in North-eastern Nigeria, characterized by both urban and rural regions. A significant portion of the population in the state resides in rural areas, where food insecurity is prevalent due to economic challenges, poor infrastructure and agricultural difficulties. Five Local Government Areas (LGAs) in rural Adamawa were purposively selected for the study based on their high levels of food insecurity, rural characteristics and the observed challenges of teacher shortages and absenteeism in their public secondary schools. These LGAs include Yola North, Yola South, Numan, Mubi South, and Gombi. The selected schools within these LGAs were rural public secondary schools known to face food insecurity and related difficulties affecting both teachers and students.

Population and Sample of the Study

The target population for the study consisted of teachers working in public secondary schools in rural Adamawa state. Using a stratified random sampling technique, 500 teachers were selected from schools across the five LGAs. Each LGA contributed 100 teachers to the sample, ensuring an equal and representative distribution. Schools were purposively

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chosen based on their location in food-insecure rural areas, the challenges of teacher absenteeism and their poor academic outcomes. This selection ensured that the study focused on schools and teachers directly affected by food insecurity, providing relevant insights into the issue.

Instrument for Data Collection

The primary tool for data collection was a self-structured questionnaire, which was divided into three sections addressing key aspects of the study: (1) Income Levels, (2) Availability of Agricultural Products, and (3) Teachers' Well-being. The questionnaire consisted of 15 items, grouped into three clusters corresponding to the themes of the study. A four-point Likert scale was used to measure the responses: Strongly Agree (4 points), Agree (3 points), Disagree (2 points), and Strongly Disagree (1 point). This scale allowed respondents to express the extent of their agreement with the statements provided.

Procedure for Data Collection

The questionnaire was administered to the 500 selected teachers across the five LGAs. The teachers were provided with the questionnaires in their schools and were given clear instructions on how to complete them. Data collection took place over a period of three weeks to ensure that all responses were accurately gathered.

Method of Data Analysis

The collected data were analyzed using mean ratings to determine the average responses of the teachers regarding income levels, food availability and their overall well-being. The decision rule was that any item with a mean rating of 2.5 or above would be considered as "Agreed" (indicating a positive response to the statement), while items with a mean rating below 2.5 would be considered as "Disagreed." This method allowed for a clear interpretation of the data, providing insights into the general trends and opinions of the respondents concerning the study variables. The chosen analytical approach effectively identified the key factors influencing teacher performance and motivation, while also highlighting the relationship between food insecurity and the well-being of teachers in rural Adamawa state.

Results

Table 1: Respondents Mean Ratings on the Influence of Income Levels on Teachers' Performance in Rural Public Secondary Schools in Adamawa State of Nigeria

S/N	Item Statements	∑fx	$\bar{x}$	Dec.
1	Low-income levels often lead to reduced motivation among teachers	1450	2.9	Agree
2	Teachers in rural areas with low-income levels are more likely to leave their positions for better-paying jobs elsewhere	1750	3.5	Agree
3	Teachers with low-income levels may struggle to access professional development opportunities	1740	3.5	Agree

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4	Financial stress due to low-income levels can lead to increased absenteeism among teachers	1760	3.5	Agree
5	Low-income teachers might not be able to afford the necessary teaching resources	1570	3.1	Agree
	Grand mean		**3.3**	**Agree**

N= 500

The results in Table 1 indicated that all item statements had mean scores ranging from 2.9 to 3.5**,** all of which are above the decision threshold of 2.5**.** This showed that the respondents agreed that income levels have a significant influence on teachers' performance in rural public secondary schools in Adamawa State. Specifically: Item 1 showed that teachers with low income levels experience reduced motivation, as reflected by a mean score of 2.9**.** This suggested that inadequate financial compensation contributes to a decrease in enthusiasm for teaching tasks. Item 2 had a mean score of 3.5**,** highlighting that teachers in rural areas with lower income levels are more likely to leave their positions for better-paying opportunities elsewhere. This high score reflects the perceived instability in rural teaching positions due to financial constraints. Item 3 also had a mean score of 3.5**,** indicating that low-income teachers often struggle to afford professional development opportunities, which in turn affects their ability to improve their teaching skills and performance. Item 4 revealed that financial stress caused by low income levels leads to higher absenteeism among teachers, with a mean score of 3.5**.** This suggested that economic hardship contributes to teachers being absent from school more frequently, negatively impacting their job performance. Item 5 had a mean score of 3.1, reflecting that low-income teachers may not be able to afford essential teaching materials, which can hinder effective instructional delivery.

The grand mean score of 3.3 suggested a consensus among respondents that income levels significantly influence teachers' performance. The findings demonstrated that inadequate income undermines teachers' ability to perform optimally in their roles. Issues such as reduced motivation, the inability to access professional development, absenteeism and the lack of necessary teaching resources are all tied to the financial challenges faced by teachers in rural Adamawa state. The analysis therefore indicated that low-income levels have a detrimental effect on teacher performance, reinforcing the need for improved financial support and resources for teachers in rural areas to enhance the quality of education in these communities.

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Table 2: Respondents Mean Ratings on the Effect of Availability of Agricultural Products on Teachers' Motivation in Rural Public Secondary Schools in Adamawa State of Nigeria

S/N	Item Statements	∑fx	$\overline{x}$	Dec.
6.	Teachers who have access to agricultural products may engage in farming, providing supplementary income	1570	3.1	Agree
7.	Access to agricultural products can improve food security for teachers, reducing financial stress	1590	3.1	Agree
8.	Teachers involved in agricultural activities may feel more connected to the community	1750	3.5	Agree
9.	The availability of agricultural products may allow teachers to balance their teaching responsibilities with farming activities	1660	3.3	Agree
10.	Access to locally grown agricultural products can reduce the cost of living for teachers	1480	3.0	Agree
	Grand Mean		**3.2**	**Agree**

N= 500

Again, the data in Table 2 revealed that the mean ratings for items 6 to 10 range between 3.0 and 3.5**,** which are all above the decision threshold of 2.5**.** This indicated that the respondents agreed that the availability of agricultural products positively impacts teachers' motivation in rural public secondary schools in Adamawa state. Item 6**,** with a mean score of 3.1**,** suggested that teachers who have access to agricultural products may engage in farming activities, which provide a supplementary source of income. This additional income is likely to alleviate some financial burdens, enhancing teacher motivation. Item 7 also had a mean score of 3.1, indicating that access to agricultural products can improve food security for teachers. This reduced financial stress allows teachers to focus more on their professional responsibilities, thus enhancing their motivation and overall job satisfaction. Item 8 had the highest mean score of 3.5**,** suggesting that teachers involved in agricultural activities feel more connected to their local communities. This community involvement can foster a sense of belonging and commitment, which may further motivate teachers to remain dedicated to their teaching roles. Item 9 had a mean score of 3.3**,** indicating that the availability of agricultural products helps teachers balance their teaching responsibilities with farming activities. The ability to engage in both teaching and farming without one negatively affecting the other serves as a motivating factor for many teachers in these rural areas. Item 10 had a mean score of 3.0, highlighting that access to locally grown agricultural products can reduce the cost of living for teachers. Lower living costs alleviate some financial stress, thus contributing to higher motivation levels.

The grand mean score of 3.2 confirmed that the availability of agricultural products positively impacts teacher motivation. The findings suggested that

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access to agricultural products not only provides supplementary income but also enhances food security and fosters community incorporation, all of which are perilous factors that contribute to the motivation of teachers in rural areas. These findings underscore the importance of agricultural resources in supporting and motivating teachers in regions where food insecurity and financial constraints are prevalent. Therefore, the availability of agricultural products plays a significant role in reducing financial stress, improving food security and creating stronger community bonds, all of which contribute to higher levels of teacher motivation in rural public secondary schools in Adamawa state.

Table 3: Respondents Mean Ratings on the Relationship between Availability of Food and Teachers' Well-Being in Rural Public Secondary Schools in Adamawa State of Nigeria

S/N	Item Statements	∑fx	$\bar{x}$	Dec.
11.	Access to food reduces stress and anxiety related to food insecurity	1460	2.9	Agree
12.	Availability of food directly influences teachers' physical health, ensuring they have the energy to perform their duties	1590	3.1	Agree
13.	When teachers have reliable access to food, they are more likely to experience higher levels of job satisfaction	1760	3.5	Agree
14.	Teachers who are well-nourished are less likely to miss work due to health-related issues.	1570	3.1	Agree
15.	The availability of food positively influences teachers' sense of security, enhancing their overall well-being	1480	3.0	Agree
	Grand Mean		**3.1**	**Agree**

N= 500

Moreover, the results from Table 3 showed that the mean ratings for items 11 to 15 range from 2.9 to 3.5**,** which are all above the decision rule cut-off point of 2.5. This indicated that the respondents agree that there is a relationship between the availability of food and teachers' well-being in rural public secondary schools in Adamawa state. Item 11 had a mean score of 2.9**,** indicating that access to food helps reduce stress and anxiety related to food insecurity. Teachers who are less stressed due to secure food access are more likely to perform their professional duties effectively, suggesting that food availability is closely linked to emotional well-being. Item 12 recorded a mean score of 3.1**,** highlighting that the availability of food significantly impacts teachers' physical health, providing them with the energy needed to fulfill their teaching responsibilities. Healthy, well-nourished teachers are better able to handle the physical and mental demands of their job, which contributes to improved performance. Item 13 had the highest mean score of 3.5**,** indicating that reliable access to food is

strongly associated with higher levels of job satisfaction. Teachers who do not have to worry about food insecurity are more content in their roles, which likely enhances their motivation and commitment to their teaching responsibilities. Item 14, with a mean score of 3.1, suggested that well-nourished teachers are less likely to miss work due to health-related issues. This finding demonstrated the direct impact of proper nutrition on reducing absenteeism, which is critical to maintaining consistent teacher performance and student outcomes. Item 15 had a mean score of 3.0, indicating that the availability of food contributes positively to teachers' sense of security. Teachers who feel secure in their access to basic needs, such as food, experience an overall enhancement in their well-being, which reflects positively on their professional attitude and job performance.

The grand mean score of 3.1 confirmed that the availability of food has a positive relationship with teachers' well-being. The data suggested that secure access to food helps alleviate stress, improves physical health, reduces absenteeism and fosters a sense of security and job satisfaction among teachers. These factors collectively contribute to a more motivated, healthy and engaged teaching workforce in rural public secondary schools in Adamawa state. Therefore, the availability of food plays a crucial role in enhancing both the physical and emotional well-being of teachers. Teachers who have consistent access to nutritious food are more likely to perform effectively in the classroom, maintain regular attendance, and experience greater job satisfaction, all of which ultimately benefit the educational outcomes in rural public secondary schools.

Discussion of Findings

The data presented in Table 1 clearly indicated that respondents recognized a significant influence of income levels on teacher performance in rural public secondary schools in Adamawa state, Nigeria. Respondents agreed that lower income levels detrimentally impact teachers' effectiveness in the classroom. Specifically, teachers experiencing inadequate salaries often encounter financial stress, which diverts their focus away from instructional responsibilities. This is evident in the agreement that low income levels correlate with reduced motivation, increased absenteeism and a tendency for teachers to seek better-paying opportunities elsewhere. The findings aligned with Ejiogu (2019), who emphasized that teachers perceive inadequate financial compensation as a demotivating factor, ultimately leading to diminished instructional quality. Conversely, it is worth noting that some researchers, such as Smith (2021), have suggested that intrinsic factors, such as passion for teaching, might mitigate the negative impacts of low income. However, in the context of this study, the overwhelming consensus among respondents highlighted the critical role that adequate

financial remuneration plays in sustaining teacher performance.

Again, the data in Table 2 reflected the respondents' agreement on the significant impact of the availability of agricultural products on teacher motivation. The data suggested that teachers in areas with abundant food sources experience higher levels of motivation, which contrasts with those in food-insecure regions who reported lower motivation levels. Respondents noted that access to agricultural products enables teachers to engage in farming, thereby providing supplementary income and reducing financial stress. Akinyemi (2020) supported this perspective, asserting that consistent access to food alleviates the anxiety associated with food insecurity, allowing teachers to focus on their instructional duties. In contrast, some scholars, such as Agrawal and Jaggi (2023) argued that while agriculture is vital for economic stability in rural areas, it can also pull teachers away from their educational commitments, thereby impacting student outcomes. Nonetheless, the findings of this study underscore the importance of food security as a motivating factor for teachers, illustrating the interconnectedness of their professional responsibilities and personal well-being.

Furthermore, the data in Table 3 indicated that respondents acknowledged a clear relationship between food availability and teachers' well-being in rural public secondary schools in Adamawa state. The data revealed that adequate food availability is crucial for maintaining teachers' overall well-being. Those with reliable access to sufficient food reported heightened job satisfaction and effectiveness in their professional duties. The findings aligned with the assertions of Adeola and Mohammed (2020), who noted that teachers with secure access to food experience reduced stress and anxiety, which translates to improved physical health and increased energy levels. This correlation suggested that when teachers' basic needs are met, they are less likely to face health-related absenteeism and more likely to perform effectively in their roles. On the contrary, a study by Ndubuisi (2023) suggested that factors like job satisfaction can vary independently of food security, indicating that other elements, such as administrative support, also play a significant role in teacher well-being. Nevertheless, the current study emphasized that food availability is a foundational aspect of teachers' well-being and performance, illustrating its essential role in fostering a conducive teaching environment.

Conclusion

The influence of food insecurity on teacher performance and motivation in rural public secondary schools in Adamawa state of Nigeria revealed significant negative consequences. Teachers facing food insecurity are likely to experience lower motivation, reduced job satisfaction and diminished overall performance. This situation leads to high absenteeism, stress and

decreased teaching quality, ultimately impacting student outcomes. The findings highlighted a pressing need for interventions to address food insecurity as a means to improve teacher well-being and consequently, the academic environment in rural schools.

Based on Self-Determination Theory (SDT) by Deci and Ryan (1985), teachers who face food insecurity are less likely to experience autonomy, competence and relatedness-three key elements essential for intrinsic motivation. Consequently, food-insecure teachers may experience lower job satisfaction, diminished performance, increased absenteeism, and reduced dedication to teaching, which ultimately hinders student academic outcomes and the overall quality of education in rural schools.

The study therefore concluded that food insecurity has a significant impact on teacher performance and motivation in rural public secondary schools in Adamawa state of Nigeria. Adequate income levels and food availability are essential for ensuring that teachers can focus on their professional responsibilities and contribute positively to student outcomes. Addressing food insecurity through policy interventions, such as increasing teachers' salaries and providing access to agricultural products, is crucial for improving the quality of education in rural areas.

Theoretical Implications

The study reinforces SDT's assertion that fulfilling basic needs is crucial for fostering intrinsic motivation. Food insecurity undermines teachers' psychological needs for autonomy, competence and relatedness, negatively affecting their motivation to perform at their best. Ensuring food security would thus align with SDT by creating conditions that allow teachers to feel more autonomous, competent and connected, leading to higher levels of job satisfaction and motivation.

The application of SDT in this study broadens the understanding of how food insecurity, a fundamental physiological need, affects the psychological needs outlined by SDT. This study encourages further research into the intersection of basic human needs and intrinsic motivation in other developing country contexts.

Practical Implications

1. Policymakers should introduce food assistance programs for teachers in rural areas. Providing access to affordable or subsidized food could alleviate the pressures of food insecurity, helping teachers meet their basic needs, which would, in turn, improve their motivation, performance, and job satisfaction in line with SDT.
2. Food insecurity can hinder teachers' sense of competence. Offering regular meals and nutritional support

could create a more stable and supportive work environment, fostering teachers' confidence in their professional abilities and promoting long-term teacher retention and effectiveness.

3. Collaborating with local communities to create school gardens or local farming projects can provide a sustainable food source for teachers and students. These initiatives would address food insecurity while fostering a sense of relatedness between schools and their surrounding communities, fulfilling one of SDT's core psychological needs.
4. International agencies and NGOs should partner with governments to deliver targeted programs aimed at rural teachers in food-insecure areas. These partnerships could include meal distribution, agricultural training or funding for school-based food programs, contributing to the well-being of teachers and improving educational outcomes.

In conclusion, addressing food insecurity in rural public schools is critical to enhancing teacher motivation and performance. Practical interventions grounded in Self-Determination Theory offer a clear pathway to improving teacher welfare, motivation and educational success in rural public secondary schools in Adamawa state of Nigeria.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. The government should increase the income levels of teachers, particularly in rural areas, to reduce financial stress and enhance job satisfaction. These would go a long way to allow teachers to focus more on their professional duties and personal growth.
2. Programs aimed at increasing the availability of agricultural products in rural areas should be prioritized to ensure that teachers have access to adequate food supplies.
3. To strengthen the relationship between food availability and teachers' well-being, it is essential to establish food security programmes that prioritize teachers in rural areas. Initiatives such as subsidized food supplies or community-based food distribution systems can help ensure that teachers have reliable access to nutritious food. These efforts would help to improve their motivation and effectiveness.

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