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# Effect of Rural Work Environment on Teachers' Professional Performance in Public Secondary Schools in Ngorongoro, Tanzania

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**Abstract:** *The rural work environment plays a critical role in shaping teachers' professional performance, especially in public secondary schools. This study investigated the effect of work environmental in influencing teacher performance in Ngorongoro District. It examined the relationship between rural working conditions and professional outcomes. Using a mixed-methods and a convergent parallel research design, integrating both quantitative and qualitative approaches. Data were collected from 56 respondents: 40 teachers selected through stratified random sampling for questionnaires, 12 teachers purposively selected for interviews, and 4 head teachers selected purposively for interviews, across four rural schools. Data collection involved 40 questionnaires, 12 teacher interviews, and interviews with 4 headteachers. Quantitative data were analyzed using SPSS (Version 25), pearson correlation, and linear regrestion. while qualitative data underwent thematic analysis. Findings reveal that, inadequate teaching resources, poor infrastructure, long commuting distances, and limited professional development opportunities negatively impact teachers' motivation and performance. The study concludes that rural teacher performance is not merely a function of personal dedication but is deeply shaped by systemic environmental conditions. The study confirms a strong relationship between the rural work environment and professional effectiveness, emphasizing the need for targeted policy interventions. Recommendations include improving infrastructure, providing adequate teaching materials, implementing professional development programs, and enhancing teacher well-being to improve performance in rural schools. It also recommends targeted policy interventions: improving infrastructure and teacher housing, ensuring equitable resource distribution, institutionalizing rural-focused professional development, and introducing hardship incentives. Teacher motivation and student outcomes in rural Tanzania will remain compromised without addressing these foundational hygiene factors*

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**Author Contributions**

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## INTRODUCTION

Education is a fundamental pillar for national development, and teachers are central to ensuring quality learning outcomes (Darling-Hammond, 2017). Teacher professional performance is influenced by qualifications, motivation, and the work environment (Day & Qing, 2019). The nature and status of work environment significantly influences teachers' professional performance, particularly in rural areas where infrastructure and resources are often inadequate (Greenfield, 2015). Rural teachers in India face challenges such as low salaries, insufficient training, and poor school facilities, which hinder their ability to provide quality education (Kumar & Gupta, 2021; Batra, 2019). International education bodies emphasize the importance of supportive work environments in promoting teacher effectiveness (Schleicher, 2018). The OECD (2019), through its Teaching and Learning International Survey (TALIS), highlights that conducive working conditions such as access to resources, professional autonomy, and manageable workloads are essential for teacher motivation and student outcomes. Similarly, UNESCO (2020), in its Global Education Monitoring Report, advocates for improved living and working conditions, especially in underserved areas, as a foundation for quality education. Research has consistently demonstrated that teacher quality is the most important school-based factor affecting student achievement (Hattie, 2009; Rockoff, 2004).

While urban schools often offer conducive working conditions, rural schools face numerous challenges that affect teacher effectiveness (Monk, 2007). In Ngorongoro District, teachers confront inadequate teaching materials, poor school infrastructure, long commutes, and limited access to professional development opportunities (Komba & Nkumbi, 2020). The geographic isolation of rural schools creates unique challenges for teacher recruitment and retention (Boyd et al., 2005; Ingersoll & May, 2012). Understanding the relationship between rural work environments and teacher performance is essential for designing effective interventions to improve educational quality in these settings (Adnot et al., 2017). Studies in Sub-Saharan Africa have shown that poor working conditions contribute significantly to teacher attrition in rural areas (Mulkeen, 2010; Bennell & Akyeampong, 2007).

Despite efforts to enhance rural education, teachers in Ngorongoro District continue to work under challenging conditions (Mkumbo, 2022). These adverse work environments have been linked to low teacher motivation, poor professional performance, and unsatisfactory student outcomes (Ladd, 2011; Johnson et al., 2012). Research indicates that teacher working conditions directly affect both teacher satisfaction and student achievement (Duffield et al., 2000; Hirsch & Emerick, 2007). This study investigates the key environmental factors affecting teachers' performance and analyzes how these factors influence professional outcomes in public secondary schools in Ngorongoro District. International comparative studies have emphasized the need for context-specific interventions to address rural education challenges (Howley et al., 2013; Roberts, 2004). The paper was guided by two specific objectives (i) To identify key environmental factors in rural areas that influence teachers' professional performance in public secondary schools in Ngorongoro District, and (ii) To analyze the relationship between the rural work environment and teachers' professional performance in public secondary schools in Ngorongoro District.

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While urban schools often offer conducive working conditions, rural schools face numerous challenges that affect teacher effectiveness. In Ngorongoro District, teachers confront inadequate teaching materials, poor school infrastructure, long commutes, and limited access to professional development opportunities. Understanding the relationship between rural work environments and teacher performance is essential for designing effective interventions to improve educational quality in these settings.

Despite efforts to enhance rural education, teachers in Ngorongoro District continue to work under challenging conditions. These adverse work environments have been linked to low teacher motivation, poor professional performance, and unsatisfactory student outcomes. This study investigates the key environmental factors affecting teachers' performance and analyzes how these factors influence professional outcomes in public secondary schools in Ngorongoro District. The paper was guided by two specific objectives (i) To identify key environmental factors in rural areas that influence teachers' professional performance in public secondary schools in Ngorongoro District, and (ii) To analyze the relationship between the rural work environment and teachers' professional performance in public secondary schools in Ngorongoro District.

## **Literature Review**

### **1. Theoretical Review**

Herzberg's Two-Factor Theory (1959) suggests that job satisfaction and performance are influenced by hygiene factors and motivators. Hygiene factors, including salary, working condition, job security, school infrastructure, and access to teaching materials. Motivation are like recognition, achievement, responsibility, and opportunities for professional growth are the driving forces behind job satisfaction and improved performance. All these plays a critical role in determining teachers' job satisfaction. In rural contexts, deficiencies in these factors can result in decreased motivation and diminished professional performance. This theoretical framework underpins the study, providing a lens to understand how rural work environments shape teacher effectiveness.

## 2. Empirical Review

### a. Key Environmental Factors

Global and African studies show that rural teachers face significant environmental challenges. In India, Batra (2019) identified poor infrastructure and lack of teaching resources. In the U.S., Paine et al. (2021) highlighted isolation and limited professional development. OECD (2020) reported insufficient digital access and materials in rural European schools. Komba and Nkumbi (2008) found that teacher performance declines in isolated schools where opportunities for professional development and community support are limited. UNESCO (2016) reported that rural teachers in developing countries often face high absenteeism due to poor working conditions, while Wanzare (2002) revealed that limited teaching resources and challenging work environments hinder teacher productivity. These findings support the need to improve rural working conditions to enhance teacher performance.

Research across Asia, America, and Europe has highlighted various environmental factors significantly affecting teachers' performance in rural areas. For example, in India, a study by Batra (2019) found that poor school infrastructure, lack of resources, and inadequate teacher training are major obstacles to effective teaching in rural areas. I agree with this observation, as these factors align closely with the realities in Tanzanian rural schools. However, Batra's study could have explored how community-based interventions or local government responses could mitigate these issues, thus offering more practical insights for stakeholders.

In the United States, Paine et al. (2021) found that rural teachers face significant challenges such as geographical isolation, low pay, and limited professional development access, impacting their motivation and performance. This is a well-founded finding, and while the context differs from Tanzania regarding resources and technology, isolation's psychological and professional impact is universally relevant. However, the study might be limited in generalizability to lower-income countries with more severe and systemic structural challenges. Similarly, in Europe, OECD (2020) reports that rural teachers often struggle with insufficient educational materials, limited access to digital technologies, and social isolation, undermining their teaching effectiveness. This credible finding highlights that even in economically advanced regions, rural disparities persist. However, OECD reports often rely on broad statistical data without contextual depth, so while useful for policy overviews, they may lack localized detail that case studies provide. By examining all these studies from Europe, Asia, and America, I observe that the challenges teachers face in rural school environments are similar, based on the nature of those environments. This cross-contextual similarity supports the idea that rural educational challenges are globally shared, though the degree of severity and state support systems vary widely. More comparative empirical studies could help determine which interventions succeed in different settings.

In Sub-Saharan Africa, environmental challenges such as inadequate infrastructure, lack of resources, and poor living conditions are widespread in rural areas. A study by Mtika and Gates (2020) in Malawi identified factors such as overcrowded classrooms, limited access to teaching materials, and inadequate teacher housing as key barriers to effective teaching. I agree with this finding and appreciate the authors' contextual relevance. However, the study could be improved by discussing potential coping mechanisms or teacher resilience, which are important dimensions in understanding the full impact of these challenges. Many schools in Africa have a big number of students in class compared to the number of teachers; this results

in uncomfortable class management. While this is accurate, the analysis could benefit from quantifying these ratios and exploring how they affect student performance outcomes, not just teacher stress. Similarly, in Kenya, Ng'eno (2021) found that teachers in rural areas faced difficulties such as long commutes, poor school facilities, and a lack of professional development opportunities, which contributed to high turnover rates and poor performance. This study is significant and resonates with many East African contexts. However, it would be useful if the author had investigated the role of local education authorities in responding to these challenges or examined any existing policy gaps. These challenges were compounded by inadequate support from educational authorities, leading to teacher dissatisfaction and subpar educational outcomes. This conclusion is consistent with many other regional studies, though a deeper exploration of leadership accountability at the district level could add more value.

In East Africa, environmental factors such as poor infrastructure and lack of resources continue to affect rural teachers. In Uganda, Kanyesigye et al. (2020) found that rural teachers face inadequate teaching materials, poor classroom facilities, and limited housing options, resulting in low morale and poor teaching quality. I agree with this analysis, which presents a realistic portrayal of the Ugandan context. However, a notable limitation is that it focuses more on symptoms than root causes or systemic solutions. Similarly, a study in Rwanda by Munyaneza (2021) emphasized that teachers in rural schools are often not provided with enough teaching materials or professional support, making it difficult for them to perform effectively. This is an important contribution, particularly as Rwanda is often cited for educational reform success. The contrast shown by Munyaneza highlights that reforms may not be equitably distributed, though the study could have improved by identifying policy implementation bottlenecks. These findings suggest that improving rural infrastructure, providing better housing, and ensuring adequate resources are critical for improving teachers' performance in East African rural schools. I strongly support this conclusion. However, it would be strengthened by suggesting scalable, low-cost interventions already being tested or implemented in the region.

In Tanzania, several studies have focused on the environmental challenges faced by teachers in rural districts. Mfaume and Bilinga (2021) observed that teachers in rural Tanzania often struggle with poor school infrastructure, limited teaching materials, and inadequate housing. This study effectively reflects current realities, and I agree with its emphasis. However, it might have been more impactful if it differentiated between challenges faced in remote rural areas versus semi-urban rural zones within Tanzania. Teachers in districts like Ngorongoro also face long distances to their workplaces, poor roads, and minimal access to essential services such as healthcare, adversely affecting their performance. Laddunuri (2020) noted that despite government interventions to improve rural education, persistent shortages of resources and poor living conditions continue to demotivate teachers, resulting in low performance and increased attrition. I fully agree with this conclusion, especially as it aligns with first-hand reports from rural teachers. However, Laddunuri could have explored why government interventions have failed to produce meaningful change whether due to resource constraints, poor implementation, or lack of follow-up.

#### b. Relationship Between Rural Work Environment and Teacher Performance

Empirical studies confirm a strong link between environmental conditions and teacher effectiveness. Jamil (2018) in Pakistan and Liu & Zhang (2020) in China found that limited

resources, inadequate support, and isolation reduce performance. In Sub-Saharan Africa, Benson (2019) and Agyemang et al. (2021) observed that poor working conditions, including long commutes and low pay, adversely affect motivation and performance. Tanzanian studies (Mkumbo, 2022; Komba & Nkumbi, 2020) similarly demonstrate that poor infrastructure and limited professional development lead to absenteeism and reduced classroom effectiveness.

Several studies have established a strong relationship between the rural work environment and teachers' performance in global contexts. In Asia, a study by Jamil (2018) in Pakistan found that teachers in rural schools performed poorly due to the challenging work environment, including limited resources, inadequate professional support, and long distances from urban centers. While Jamil's study effectively captures the environmental difficulties faced by rural teachers, it lacks a robust analysis of how these factors interact with intrinsic teacher motivations and community-based support systems, which could provide a more nuanced understanding of performance outcomes. Similarly, Liu and Zhang (2020) in China noted that rural teachers faced difficulties maintaining high performance due to lack of training, professional development opportunities, and poor working conditions, leading to teacher burnout and decreased effectiveness. However, their study does not consider the influence of regional policy interventions and how varying levels of school leadership affect these outcomes. In Europe, OECD (2020) noted that teachers in rural schools in countries like Greece and Portugal struggled to maintain high performance levels due to poor work environments, including infrastructure challenges and a lack of community support. While the OECD provides broad and valuable statistical insights, the generalized nature of the report limits its ability to address country-specific or micro-level factors that could influence teacher performance differently across various contexts.

In Sub-Saharan Africa, several studies have demonstrated a direct link between the rural work environment and teachers' performance. Benson (2019) in Nigeria found that poor working conditions, such as overcrowded classrooms, insufficient resources, and long commutes, significantly impacted teachers' ability to deliver quality education. However, Benson's study lacks a gendered lens, which is crucial given that rural working conditions may affect male and female teachers differently. In Ghana, Agyemang et al. (2021) observed that rural work environments, including inadequate training, low pay, and poor access to teaching materials negatively influenced teachers' performance. While informative, the study could have benefited from more longitudinal data to assess how these factors affect teacher performance. These findings underline the need for systemic improvements in rural education systems to enhance teacher performance.

In East Africa, studies have shown a strong connection between the rural working environment and teachers' performance. In Tanzania, Mkumbo (2022) found that teachers in rural areas often performed poorly due to environmental factors such as poor infrastructure, lack of teaching materials, and minimal professional development opportunities. Nevertheless, Mkumbo's analysis could be enriched by including comparative data from more urban schools to isolate which factors are uniquely rural. In Kenya, Ng'eno (2021) reported that rural teachers performed less effectively due to inadequate housing and a lack of community support, which decreased motivation and job satisfaction. However, this study does not fully address how government incentives or school leadership might mitigate some of these issues. These studies highlight the need for a supportive rural work environment to improve teacher performance in

East African countries (Mtika et al., 2020). Still, Mtika et al.'s contribution would be stronger if it addressed the role of donor-funded education projects in altering local working conditions.

The relationship between the rural work environment and teacher performance is evident in Tanzania. Komba and Nkumbi (2020) highlighted that teachers in rural schools were often demotivated by factors such as poor living conditions, lack of teaching resources, and limited career advancement opportunities. Although the study is comprehensive, it would benefit from integrating teachers' voices more deeply through qualitative narratives to enhance the empirical grounding. These environmental challenges led to increased absenteeism and low job satisfaction, ultimately affecting teachers' ability to perform effectively in the classroom. In Ngorongoro District, teachers reported experiencing severe isolation due to the remoteness of their schools and limited access to support services, which further impacted their teaching effectiveness. This observation affirms the need for localized solutions that address physical infrastructure and psychosocial and professional support for rural teachers.

## **METHODOLOGY**

This study employed a mixed-methods research approach, integrating both qualitative and quantitative research techniques to comprehensively analyze how rural working environments impacted teachers' performance in Ngorongoro District, study adopted a convergent parallel design, integrating both quantitative and qualitative approaches concurrently. This design was appropriate for exploring the complex relationship between rural working environments and teacher performance by allowing the collection and analysis of numeric data and detailed contextual information. Quantitative data were collected using structured questionnaires from a broad sample of teachers to statistically examine how factors like infrastructure, resource availability, and financial incentives influenced teacher performance. Simultaneously, qualitative data were gathered through semi-structured interviews and observation checklists targeting head teachers and education officers. These tools provided in-depth insights into teachers lived experiences, including motivation, workload, and coping strategies in rural settings.

The study was conducted in Ngorongoro District, located in the Arusha Region of northern Tanzania. The target population for this study comprised secondary school teachers and heads of schools from four purposively selected rural public secondary schools in Ngorongoro District. The total population of teachers across these four schools was 120. From this pool, a sample of 56 individuals was selected to participate in the study: 52 teachers and 4 heads of schools (one from each school). The 52 teachers were drawn using stratified random sampling to ensure proportional representation from each school. In contrast, the 4 heads of schools were included through purposive sampling due to their unique administrative roles and in-depth knowledge of school operations, teacher welfare, and institutional challenges. Data collection methods were conducted through questionnaires for the 40 teachers, 12 teacher interviews, and 4 headteacher interviews. Quantitative data were analyzed descriptively, while qualitative data were coded and analyzed thematically.

## RESULT AND DISCUSSION

### Result

Findings revealed that rural work environments significantly influence teachers' professional performance. Teachers reported inadequate teaching resources, including shortages of textbooks and laboratory materials. Poor infrastructure, such as lack of electricity, insufficient water supply, and inadequate classrooms, was also identified as a major challenge. Long commuting distances contributed to fatigue and reduced productivity.

*Teachers' Perceptions of Environmental Factors (Likert Scale: 1=Strongly Disagree to Agree 5=Strongly)*

**Table 1. Teachers' Perceptions of Environmental Factors**

No	Statement	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)	Mean	% Positive (Agree + Strongly Agree)
1.	My school lacks essential infrastructure like classrooms and electricity.	1 (2.5%)	4 (10.0%)	6 (15.0%)	15 (37.5%)	14 (35.0%)	3.95	72.50%
2.	I have sufficient access to teaching and learning materials.	10 (25.0%)	16 (40.0%)	8 (20.0%)	5 (12.5%)	1 (2.5%)	2.15	15.00%
3..	Poor housing conditions negatively affect my job performance.	0 (0.0%)	2 (5.0%)	3 (7.5%)	15 (37.5%)	20 (50.0%)	4.35	87.50%
4.	Distance to school and poor roads affect my punctuality and consistency.	1 (2.5%)	3 (7.5%)	1 (2.5%)	10 (25.0%)	25 (62.5%)	4.40	87.50%
5.	I feel supported by school leadership and administration.	3 (7.5%)	9 (22.5%)	9 (22.5%)	14 (35.0%)	5 (12.5%)	3.20	47.50%

Source: Field Data (2025)

The quantitative findings indicate that teachers' most critical environmental challenges are poor housing conditions, distance to school, and poor road infrastructure. Both factors recorded very high levels of agreement 87.5% of respondents affirmed that they negatively affect their performance, with mean scores of 4.35 and 4.40 respectively. These results demonstrate that teachers in Ngorongoro face significant barriers in reaching their schools on time and maintaining their energy and commitment once at work. The findings also examine the relationship between the rural work environment and teachers' professional performance in Ngorongoro District. The analysis draws on composite scores from survey items measuring environmental factors and professional performance indicators. Pearson correlation and linear regression analyses were conducted using SPSS to determine the strength and direction of the relationship and the extent to which environmental conditions predict variations in teachers' performance. This approach provides a statistical foundation for understanding how the quality of the working environment directly influences teachers' effectiveness in their professional duties. The study found a strong relationship between rural working conditions and teacher performance, confirming that environmental factors directly affect teaching effectiveness.

## Discussion

The findings align with Herzberg's Two-Factor Theory, which emphasizes the importance of hygiene factors such as working conditions in influencing job satisfaction. Poor school infrastructure, limited teaching materials, and long travel distances were found to reduce teacher motivation and professional engagement. These results support earlier studies by Mwakyusa (2017), Komba and Nkumbi (2020), UNESCO (2016), and Wanzare (2002), which also highlighted the negative impact of poor rural work environments on teacher's performance. The absence of motivating factors such as professional development, recognition, and a sense of responsibility can undermine teachers' intrinsic motivation. The study shows rural schools in Ngorongoro District teachers feel professionally isolated, unappreciated, and disconnected from career advancement opportunities. According to Herzberg's theory, this lack of motivating elements diminishes job satisfaction even if the physical work environment is improved. Therefore, hygiene factors and motivators must be addressed concurrently to enhance teacher performance.

Improving rural schools' working conditions is essential for enhancing teacher motivation, reducing absenteeism, and improving overall teacher productivity. Investment in infrastructure, teaching materials, and professional development is crucial for promoting quality education in rural settings.

## CONCLUSION

The study concluded that the rural work environment significantly affects teachers' professional performance in Ngorongoro District. Challenges such as inadequate teaching resources, poor infrastructure, long commuting distances, and limited access to professional development opportunities reduce teacher motivation and effectiveness. Improving these environmental conditions is essential for enhancing teacher performance and promoting quality education. It was further concluded that a significant and positive relationship exists between rural work environments and teachers' performance. The statistical results confirmed improved environments lead to better motivation, punctuality, commitment, and instructional effectiveness. Conversely, poor environments translate into absenteeism, low morale, and weak classroom performance. This strong correlation reinforces the argument that investing in rural teacher welfare directly leads to improved student achievement.

Future studies should broaden their scope to include more districts and regions in the country's northern and southern parts. Such a comparative approach would help reveal whether challenges such as poor infrastructure, inadequate housing, and lack of professional support are uniform across rural Tanzania or differ depending on geography, culture, and economic conditions. In this way, policymakers would be better informed when designing interventions targeting local and national realities.

The government is obliged to improve school infrastructure, including classrooms, libraries, laboratories, electricity, water supply, and sanitation facilities. Also, to provide adequate teaching and learning materials such as textbooks, laboratory equipment, and teaching aids. Educational administrators should establish regular professional development programs, workshops, and mentorship schemes for rural teachers. Introduce policies that offer incentives, allowances, and recognition programs to motivate rural teachers. The local government through authorities should strengthen community involvement in school

development and decision-making processes. Lastly, the government needs to improve teacher well-being by providing access to health services and stress-management support in rural areas.

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