



MOTIVATIONAL APPROACHES IN RURAL K-12 SCHOOLS: A SYSTEMATIC REVIEW OF TEACHER PERSPECTIVES IN DEVELOPING COUNTRIES

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Abstract:

Rural schools in developing countries face persistent challenges of low teacher motivation, limited incentives, and inadequate working conditions, which collectively affect teaching effectiveness and student learning outcomes. This study explores motivational approaches from the perspectives of rural K-12 teachers in developing countries, emphasizing strategies that enhance teacher performance and instructional quality. An in-depth systematic review was undertaken on 31 empirical studies that were selected from the period of January 2014 to December 2023. These studies were conducted in 14 developing countries in Africa, Asia and North America, of which 64% were conducted in Africa. Among the 31 studies, there are 17 research articles and 14 postgraduate dissertations, including 13 PhD and 1 master's thesis. Methodologically, 12 studies adopted mixed methods, 8 studies used quantitative methods, and 11 studies applied qualitative research methods. Findings from this review indicate that rural teachers perceived financial and non-financial motivational incentives as a catalyst for their motivation. However, the level of perception varies among the teachers, as 61% of the studies indicate that non-financial motivational incentives are the key driving force behind their motivation. The study further proposed an Integrated Rural Teacher Motivation (IRTM) Model for understanding teacher motivational strategies in rural schools in developing countries. The search for relevant studies was limited to Google

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Scholar, Scopus and ERIC because access to the Web of Science database was unavailable. Consequently, some relevant studies may not have been captured, and the findings should be interpreted within this methodological limitation.

Keywords: teacher motivational approaches; K-12 schools; rural schools; developing countries

1. Introduction

Teacher motivation is the willingness to invest significant effort in their jobs and responsibilities, influenced by personal needs and the work environment (Lauermann *et al.*, 2017). It serves as the driving force for individuals to achieve their goals. Research shows that the motivation level of teachers varies based on their unique perceptions and attitudes toward teaching (Han & Gao, 2023; Onyefulul *et al.*, 2023). Social context, organizational culture, leadership practices, and interpersonal relationships all impact motivation (Haxhihyseni *et al.*, 2023). According to Hassan and Berkovich (2024), motivation strongly correlates with job performance, job satisfaction and workplace improvement programmes. Hasan and Hynds (2014), in concurrence, note that motivation directly influences job performance when efforts are appropriately recognized. Ensuring teachers are motivated, is essential, especially in developing countries where challenges such as inadequate professional development opportunities, unfavorable working conditions, limited involvement in decision making and low salaries lead to a decline in teacher motivation (Al Maktoum & Al Kaabi, 2024; Raman *et al.*, 2021).

Teaching and learning experiences in rural areas are shaped by a combination of contextual, institutional, and individual factors (Rhinesmith *et al.*, 2023). These include access to educational resources, environmental infrastructure, student demographics, and the geographical placement of teachers and learners (Nedungadi *et al.*, 2017; Omoniyi *et al.*, 2022; Shula, 2023). Rural schools in many developing countries often face systemic disadvantages due to limited resources and poor working conditions, which collectively affect the motivation and performance of teachers (Haxhihyseni *et al.*, 2023; Lauermann *et al.*, 2017; Muremela *et al.*, 2023). The scarcity of basic amenities such as reliable road networks, electricity, potable water, functional classrooms, and sanitary facilities further compounds teachers' professional challenges and influences their commitment to quality instruction (Alhassan & Libanus, 2021). These conditions highlight the urgent need for educational systems to prioritize teacher motivation as a key driver of effective teaching and learning in rural contexts (Beymer & Robinson, 2022; Orsini *et al.*, 2020). Teacher motivation in rural schools can also be understood within the broader framework of adult education and lifelong learning. Teachers are adult learners whose professional growth depends on continuous learning, reflective practice, and opportunities for self-development. Adult education principles emphasize autonomy, experiential learning, collaboration, and self-directed professional improvement, all of which are closely linked

to teacher motivation and performance. In rural educational settings, where access to training and professional support is often limited, motivational strategies such as professional development, peer collaboration, mentoring, and participation in decision-making become essential mechanisms for sustaining lifelong learning among teachers. Therefore, strengthening teacher motivation not only improves instructional quality but also promotes a culture of continuous adult learning within rural school systems.

Motivation, as noted by Ocham and Okoth (2015), is a multifaceted construct influenced by personal, institutional, and socio-cultural dynamics. In the context of rural education, teacher motivation represents a crucial determinant of professional performance and student achievement. However, many rural educational administrators continue to struggle with developing effective motivational strategies that enhance teachers' job satisfaction and instructional productivity (Diwakar *et al.*, 2023; Lv, 2023). Factors such as fair remuneration, professional development opportunities, involvement in decision-making, recognition of excellence, access to teaching resources, supportive leadership, and community encouragement all play pivotal roles in sustaining teacher motivation (Alhassan & Libanus, 2021; Gobena, 2018; Ocham & Okoth, 2015; Órdenes *et al.*, 2023). When these factors are neglected, teaching in rural areas often becomes monotonous and less effective (Fungo, 2020). Motivated teachers play an indispensable role in fostering student learning and holistic development (Abakah, 2023). According to Njir (2014), teacher motivation is directly linked to instructional effectiveness and student achievement. Well-motivated teachers demonstrate higher levels of commitment, creativity, and adaptability even under challenging circumstances (Tao, 2016; Yuan & Zhang, 2017). In contrast, low motivation, often caused by inadequate welfare, poor remuneration, or weak professional support, can result in absenteeism, low morale, and diminished instructional quality (Abakah, 2023; Hasan & Hynds, 2014). As Al Maktoum and Al Kaabi (2024) emphasize, teachers' performance encompasses commitment, diligence, and alignment with institutional goals, all of which are influenced by their motivational state.

Exploring rural teachers' perspectives on motivational strategies is therefore essential for understanding how these factors contribute to improved teaching effectiveness and learner performance (Frey *et al.*, 2017; Pennefather, 2023). Evidence suggests that motivation enhances teachers' professional commitment, promotes innovation, and strengthens instructional quality (Haxhihyseni *et al.*, 2023). When teachers are adequately supported and motivated, rural schools are more likely to achieve sustainable improvements in educational outcomes (Han & Gao, 2023). Despite increasing attention to teacher motivation, limited studies have examined how rural K-12 teachers in developing countries perceive and experience motivational interventions (Gorodnycha *et al.*, 2023; Haxhihyseni *et al.*, 2023; Lv, 2023; Onyefulu *et al.*, 2023; Skåland *et al.*, 2023).

Despite ongoing policy efforts, many teachers in developing countries continue to face challenges such as insufficient teaching materials, limited training, and outdated pedagogical methods (Chen & Cao, 2022; Kirkpatrick *et al.*, 2024). Addressing these issues

requires understanding teachers' lived experiences and perceptions of motivation in their professional environments. Accordingly, this study aims to synthesize rural K-12 teachers' perspectives on motivational approaches for enhancing performance and teaching effectiveness in developing countries, with a central research question:

- How are motivational approaches perceived by rural K-12 teachers in developing countries?

1.1 Global Perspective on Teacher Motivation

The effectiveness of school administrators in persuasion hinges on their ability to address teachers' motivational needs (Chen & Cao, 2022). Employing non-threatening strategies to boost morale and performance is crucial (Han & Gao, 2023; Haxhihyseni *et al.*, 2023). Both monetary and non-monetary rewards play a role in this process, but intrinsic motivation takes center stage in achieving efficient and effective outcomes (Lamb *et al.*, 2021; Nalipay *et al.*, 2023; Onyefulu *et al.*, 2023). Teachers in the United Kingdom (UK) find motivation in recognition of good performance and opportunities for professional development (Lanvers, 2017; Lauermann *et al.*, 2017). Furthermore, recognition and praise serve as significant motivators for United States (US) teachers, while respect emerges as the most critical factor impacting teacher performance in Mexico (Lauermann *et al.*, 2017). Teachers in China experience high motivation when they receive societal respect (Lv, 2023). In fact, in Asian countries, teaching is revered as a divine profession, and educators receive substantial rewards, including competitive salaries, transportation, accommodation, medical insurance, promotions, recognition, and appreciation (Kirkpatrick *et al.*, 2024).

In Africa, job performance is influenced by working conditions, resource availability, regular training, access to information, recognition, and a well-structured reward system in the context of Nigeria (Mbukanma, 2022). Teachers in sub-Saharan Africa generally experience low job satisfaction, resulting in diminished motivation levels (Wet & Rothmann, 2023; Muremela *et al.*, 2023; Tshukudu *et al.*, 2023). This situation has led to a crisis in teacher motivation across various educational systems (Wet & Rothmann, 2023). Institutional issues exacerbate this problem, including frequent policy changes without teachers' input, biased promotions, irrational deployment, strained relationships between teachers and school administrators, insufficient support from regional education authorities, unfavorable working conditions, overcrowded classrooms, lack of teacher housing, irregular pedagogical training, inadequate recognition, and meager salaries (Wet & Rothmann, 2023; Omoniyi *et al.*, 2022; Shula, 2023). Despite several efforts to address these issues, teachers in certain regions continue to grapple with performance challenges (Pennefather, 2023). These challenges include irregular work attendance, inadequate preparation of professional teaching materials, lack of supervision during school activities, subpar classroom instruction, and insufficient attention to students (Pennefather, 2023; Raman *et al.*, 2015; Tshukudu *et al.*, 2023). While some teachers manage to perform well despite inadequate motivation, there is an increasing concern that the overall quality of education may suffer in areas where

teacher morale remains low (Kyale, 2016). Researchers recommend several measures to enhance teacher motivation and performance, such as increasing salaries, providing suitable accommodations, strengthening supervision, and implementing awards for outstanding teachers (Lv, 2023; Órdenes *et al.*, 2023).

1.2 Review of Related Motivational Theories

Motivational approaches are grounded in various motivational theories; understanding and appropriately applying those theories to teacher motivation can greatly enhance teachers' performance and productivity (Wu *et al.*, 2023). This study underscores the importance of these theories in influencing human behavior, particularly in motivating teachers in rural areas.

1.2.1 McGregor's Theory 'X' and Theory 'Y'

This motivation theory explores the reasons for human behavior, with Theory 'X' arguing that humans are inherently lazy and avoid work (Lambert *et al.*, 1984). Theory 'Y', on the other hand, asserts that humans find fulfillment in work, embrace responsibility, harbor ambition, and contribute to organizational objectives (Lambert *et al.*, 1984; Markwell, 2004). It emphasizes the importance of management in fostering productive work and achieving organizational goals (Fisher, 2009).

1.2.2 Expectancy Theory

The expectancy theory was developed in 1964 and later modified in 1968 (Hackman & Porter, 1968). This theory posits that motivation is determined by the interplay of valence, instrumentality, and expectancy (Gaspard *et al.*, 2022; Lazarides *et al.*, 2023). Employees are motivated to work when they anticipate receiving a reward that they perceive as valuable (Urhahne & Wijnia, 2023). School management must determine employee values, ensure commitments regarding fulfilling rewards, and assess employees' expectations of satisfaction from rewards (Göller & Besser, 2023).

1.2.3 The Two-Factor Theory Herzberg

This theory was built upon the concept of fulfilling needs to enhance worker satisfaction (Abraham & Prasetyo, 2021; Mgaiwa, 2023). The theory identifies hygiene factors as environmental elements that contribute to workers' discontentment and highlights additional elements that increase worker effort, such as accomplishment, accountability, progress, promotion, and recognition (Abraham & Prasetyo, 2021; Göktürk *et al.*, 2021; Madsen, 2020).

1.2.4 Maslow's Hierarchy Theory

This theory describes how individuals engage in work due to unfulfilled desires, organized in a hierarchy ranging from basic to higher-order needs (Fisher, 2009; Göktürk *et al.*, 2021). Maslow's theory outlines primary motivational needs as esteem, safety, social connections, and physiological requirements, culminating in the aspiration for self-

actualization (Haxhihyseni *et al.*, 2023; Lauermann *et al.*, 2017). However, the proportion of individuals who attain self-actualization is relatively small. Teachers in rural areas struggle to stay motivated due to a lack of basic amenities, violence, and social needs (Lv, 2023).

1.2.5 The Social Cognitive Theory (SCT)

This theory emphasizes the interaction between cognitive processes, behavior, and the environment, influencing self-efficacy and motivation (Evans *et al.*, 2024). Teachers in rural areas can learn from role models, increase self-efficacy through assistance and training, and foster motivation through collaborative workplaces (Omoniyi *et al.*, 2022; Shula, 2023).

1.2.6 The Self-determination Theory (SDT)

This theory suggests that motivation is shaped by inherent psychological needs for autonomy, competence, and relatedness (Badjie & Velankar, 2023; Evans *et al.*, 2024; Ryan & Deci, 2000; Zhou & Zhang, 2023). By appropriately integrating these principles into motivational approaches, administrators can create an inspiring teaching environment, facilitating self-reliant, competent, and intrinsically motivated teachers for the institution (Evans *et al.*, 2024).

1.2.7 Relevance of Motivational Theories to This Study

There are differences between motivational theories, yet they provide overlapping insights into the phenomenon of teacher motivation. Individuals are driven to satisfy a sequence of needs, starting from psychological necessities to self-actualization as indicated by Maslow's hierarchy of needs theory (Tekke, 2019). Unmet basic needs, such as housing or stable income, can be a significant demotivator in the context of rural teachers. An idea is echoed in Herzberg's two-factor theory, which separates hygiene factors such as salary and job security from true motivators like recognition and advancement (Ghimire *et al.*, 2024). Both these theories recognize the importance of fulfilling foundational needs before a higher level of motivation can occur.

Expectancy theory brings a process-oriented view, proposing that motivation depends on the expectation that effort will lead to performance and that performance will yield desirable rewards (Fedorko *et al.*, 2021). This is in line with Herzberg's concept of rewards but differs by focusing more on how individuals make decisions based on perceived outcomes (Kudaibergenov *et al.*, 2023). However, a contrasting view of human motivation is introduced in McGregor's theory X and Y. Where theory X assumes people inherently dislike work and need external control, while people are self-motivated and thrive when given autonomy, as assumed in theory Y (Al-Akeel & Jahangir, 2020). The latter view aligns with SDT, which argues that intrinsic motivation flourishes when individuals experience autonomy, competence and relatedness. The psychological needs, as emphasized by SDT, drive self-motivation, which makes it highly applicable in the context where teachers are seeking meaning, growth and community (Tran, 2024). A

more interactive perspective is offered by SCT, which suggests that motivation is shaped by the dynamic relationship between the individual, their behavior and their environment (Toyama, 2022). Like SDT, it highlights self-efficacy and the role of social modeling, but SCT adds unique emphasis on learning through observation and reinforcement (Hidayat & Ramli, 2019). As these theories differ in focus, some concentrating on environmental interaction, others on needs, they collectively reinforce the idea that both intrinsic and extrinsic factors matter. A combined application of these theories gives a more comprehensive understanding of teacher motivational factors, especially in settings that are socially complex and limited in resources, such as rural schools.

Maslow's Hierarchy of Needs, Herzberg's Two-Factor Theory, and SDT together provided the conceptual foundation for framing the research question and interpreting the findings. These theories collectively guided the review in understanding how different motivational elements influence teacher performance, particularly within rural school contexts in developing countries. The central research question was therefore mainly informed by these theoretical perspectives that explain the interaction between individual needs, workplace conditions, and intrinsic drives. Maslow's Hierarchy of Needs offered the baseline for analyzing how the satisfaction of physiological, safety, social, esteem, and self-actualization needs affect teachers' professional engagement, providing an interpretive lens through which challenges such as poor remuneration, inadequate housing, and lack of instructional materials were understood as unmet lower-order needs that limit teachers' professional fulfillment and pedagogical creativity. Similarly, Herzberg's Two-Factor Theory distinguished between factors that prevent dissatisfaction, such as working conditions and job security and those that actively promote satisfaction, including recognition, professional development, and achievement. This guided the categorization of evidence on teachers' experiences, revealing that while many rural schools lacked sufficient "hygiene factors," successful motivational cases were often built around intrinsic "motivator" elements like acknowledgment, decision-making participation, and career growth opportunities. SDT complemented these frameworks by emphasizing autonomy, competence, and relatedness as essential to sustaining intrinsic motivation, helping interpret findings that showed how teachers remained committed despite limited external incentives due to internal satisfaction derived from belonging, mastery, and purpose. Collectively, these theoretical perspectives enabled the review to structure its analysis around three motivational dimensions: extrinsic (material and institutional), intrinsic (psychological and self-fulfillment), and contextual (community and policy-based) to examine how they interact in shaping teachers' professional performance and classroom effectiveness. The concepts explored in SDT are also consistent with foundational principles in adult education theory, particularly the emphasis on autonomy, self-direction, competence, and intrinsic motivation. Adult learning theorists argue that adults learn most effectively when they perceive learning as relevant to their professional and personal growth. In the context of rural teachers, motivational strategies such as professional recognition, collaborative

learning environments, and opportunities for career advancement encourage teachers to engage in continuous professional learning. This connection positions teacher motivation not only as an employment issue but also as an adult education concern that supports lifelong learning, professional identity formation, and sustained instructional improvement.

1.3 Teacher Motivation and Performance

Job performance is a byproduct of motivation (Mbonea *et al.*, 2021; Vardarlier, 2016). An important component of motivation is the teacher's happiness. When teachers are happy with their jobs, organizations, salaries and benefits, they are more likely to put their best efforts into their work performance (Chang & Sung, 2024; Miguel Sebastian *et al.*, 2023). According to Wu *et al.* (2023), there are two ways to motivate people at work: self-motivation and management through compensation, rewards, recognition, and advancement. Sultana (2017) and team carried out research in Pakistan, investigating how motivation impacts teachers' performance across public and private schools. Their study indicated a significant positive correlation between teachers' motivation and their performance. They further state that teachers become more motivated when they engage in work-related daily activities.

Gaining a competitive edge and achieving success in teaching depends heavily on performance and motivation (Haxhihseni *et al.*, 2023). These factors are impacted by social and economic factors, boost productivity, and help teachers accomplish objectives. Motivating teachers enhances their abilities and expertise, which has a direct impact on students' academic success (Dahri *et al.*, 2024). Poor working circumstances, cultural differences, and organizational culture can all harm teachers' effectiveness (Mbonea *et al.*, 2021). Consequently, in order to retain and inspire teachers, clear and progressive terms and conditions of service are crucial (Sultana, 2017). Some studies claim that teachers are most motivated by money, while others support Maslow's theory of hierarchy of needs (Chang & Sung, 2024; Mbonea *et al.*, 2021; Sultana *et al.*, 2017). Studies have also shown that motivation has a bigger role in a teacher's effectiveness and caliber of instruction than skills (Fisher, 2009; Gaspard *et al.*, 2022; Göktürk *et al.*, 2021). Based on these factors, a comprehensive approach that considers both monetary and non-monetary rewards as potential inducements to boost teachers' motivation is necessary to address both teacher motivation and performance (Eutimi, 2018).

2. Method

The widely used *Preferred Reporting Items for Systematic Reviews and Meta-Analyses* (PRISMA) (Liberati *et al.*, 2009) has been adopted in this study to review the documents related to teachers' motivational strategies in developing countries. To identify the relevant studies, a search string using keywords with Boolean operators (AND and OR) has been developed (Luo *et al.*, 2024). The search string was structured as ("Teacher Motivation") AND ("Approaches" OR "Strategies") AND ("K-12 schools") AND ("Rural

areas" OR "Rural schools"). This study focused only on documents published between January 2014 and December 2023 (Andreasen *et al.*, 2022; Helbach *et al.*, 2022; Sauer & Seuring, 2023; Xiao & Watson, 2019). This period was chosen to ensure the inclusion of the most recent and contextually relevant studies on rural teacher motivation in developing countries. The timeframe was also selected based on post-2015 Sustainable Development Goal 4 implementation, national curriculum reforms focusing on teacher quality, and post-COVID-19 changes in teacher motivation. This period best captures educational policy transformations relevant to rural teaching contexts. Furthermore, limiting the search to this period also aligns with best practices in systematic reviews, which recommend focusing on the past decade to capture current trends while avoiding outdated practices (Sauer & Seuring, 2023; Xiao & Watson, 2019). Also, studies have confirmed that literature older than ten years often loses practical relevance in fields influenced by socioeconomic and policy shifts (Andreasen *et al.*, 2022; Helbach *et al.*, 2022). The selected documents are indexed in popular databases (Pahlevan-Sharif *et al.*, 2019). These databases are Google Scholar, Scopus and the Education Resources Information Center (ERIC). Although Web of Science is recognized as one of the most comprehensive multidisciplinary databases for systematic reviews, it was not included because institutional subscription access was unavailable during the review period. The omission of Web of Science may have excluded some relevant studies indexed exclusively within that database and therefore represents a potential source of selection bias. Nevertheless, the inclusion of Google Scholar, Scopus and ERIC enabled broad coverage of education-related literature and regional publications. The search for published studies was mainly focused on the titles and abstracts of the articles (Sauer & Seuring, 2023; Xiao & Watson, 2019). However, the search was limited to titles in the Google Scholar database. The inclusion and exclusion criteria in Table 1 were considered in determining the eligibility of searched articles (Andreasen *et al.*, 2022).

2.1 Identification of Relevant Publications

Using a systematic, multi-stage approach, three independent reviewers screened titles and abstracts to exclude studies that did not meet the inclusion criteria. The initial search yielded 2551 studies, of which 2530 studies were from Google Scholar, ERIC and Scopus databases, yielding 19 and 2 studies, respectively. Following the first exclusion criterion in Table 1, non-English language papers were excluded. Peer-reviewed journal articles, conference papers, and postgraduate dissertations were included for their empirical alignment with the study's aim. Books and chapters were excluded as they are primarily conceptual and lack empirical peer-reviewed rigor. Dissertations were retained due to limited journal studies in rural motivation contexts. During the initial review of the 2551 studies, 5 duplicates were removed, yielding 2546 studies. The titles and abstracts were further reviewed putting into consideration inclusion criteria 2 and 3, and exclusion criteria 2, 3 and 5, which resulted in excluding 1645 studies. This reduced the number of studies to 901. The researchers attempted to access the full text of the remaining studies for an in-depth review; however, the full text of 425 studies were not accessible and hence

they were removed based on inclusion criteria 1. This yielded 476 empirical studies to be further reviewed. By limiting the scope to developing countries i.e., applying inclusion criteria 4, a total of 350 studies were excluded. This resulted in 126 studies out of which 90 studies were removed because they focused on motivational strategies applied by teachers to motivate students. Therefore, by applying inclusion criteria 5, 36 studies remained for further review. By applying exclusion criterion 6, multiple studies reporting substantially identical findings from the same geographical context, participant population and research objectives were screened for overlap. Where duplication occurred, only the most comprehensive or methodologically rigorous study was retained to avoid overrepresentation of similar evidence. This resulted in the removal of 5 more studies, which finally reduced the total number of studies to be reviewed within the scope of this study to 31. The flow diagram of the search process based on the inclusion and exclusion criteria is shown in Figure 1. Google Scholar lacks indexing consistency and advanced filtering options; however, it was used to capture relevant regional studies and grey literature. Cross-verification and duplicate screening mitigated this limitation.

Table 1: Inclusion and Exclusion Criteria

No	Inclusion criteria	Exclusion criteria
1	Available full text	Non-English papers
2	Empirical studies	Review articles
3	Teacher motivation in rural K-12 context	Teacher motivation in higher education
4	Studies conducted in developing countries	Studies focusing on motivational approaches employed by teachers on students
5	Studies focusing on rural teacher motivational approaches or strategies	Books and book chapters
6		Similar studies of the same kind and context

2.2 Review Process of the Selected Studies

The three reviewers independently assessed the full texts of the selected (31) studies against prespecified eligibility criteria; disagreements were resolved through discussion and, if unresolved, adjudicated by a fourth senior reviewer. Inter-reviewer agreement for full-text screening met the prespecified threshold for substantial agreement ($\kappa \geq 0.60$) (Hanegraaf *et al.*, 2024). The selected (31) studies were critically reviewed to identify the methodology, participant demography, sample size, country and key findings. These data were then extracted into an Excel sheet for further analysis using NVivo 12. Each study was given a unique identifier, which is denoted as S1 to S31. Studies 1 to 31 are presented in Appendix A. All selected studies were appraised using items adapted from CASP and MMAT and mapped to a consistent Y/P/N scoring scheme (Y = 2, P = 1, N = 0) (Leliopoulou *et al.*, 2024). Criterion-level totals (Appendix B) and study-level 5-point scores were visualized in a radar plot (Figure 1a) and bar chart (Figure 1b), respectively. Criterion-level results indicate consistently strong reporting for Clear Aim, Findings and Value of Research (100%), moderate-to-strong reporting for Methodological Appropriateness, Research Design and Data Analysis (61–69%), and weaker reporting

for Recruitment, Data Collection, Researcher–Participant Relationship and Ethical Issues ($\approx 50\%$). The mean study-level quality score was 3.5 (5-point scale, “moderately-high”). These appraisals guided sensitivity checks and weighted interpretation in the narrative synthesis. Further details of the CASP/MMAT→YPN mapping table, and the NVivo codebook and audit trail for thematic analysis are provided in the Appendices.

As these extracted data relate to the research question, which are in text format, and should be analyzed to understand the perspectives of rural K-12 teachers on motivational approaches, the researchers employed Braun & Clarke’s (2006) six-phase framework for thematic analysis approach to analyze and interpret the extracted qualitative data (Braun & Clarke’s, 2006). The framework was chosen for its flexibility, transparency, and ability to systematically progress from raw data to rich thematic interpretation. The process was inductive, allowing themes to emerge from the data rather than being predetermined by existing theory. Three independent coders conducted the analysis using a multiple review process to generate codes, organize and categorize the codes and develop themes to answer the stipulated research question (Braun & Clarke, 2006; Fielden *et al.*, 2011). The inter-coder reliability was achieved through consensus. In Phase 1, the selected studies were read in full to ensure deep engagement with their content, with the results, findings and discussion sections re-read multiple times to identify key findings on how K-12 teachers perceive motivational approaches in developing countries, while initial reflective notes were recorded in a research log to capture first impressions and recurring issues. In Phase 2, motivational approaches-related excerpts were collated and subjected to line-by-line coding using NVivo, with each segment describing a perceived motivational approach assigned a succinct code, keeping close to the authors’ wording to preserve meaning and avoid premature abstraction. In Phase 3, related codes were grouped into broader conceptual categories based on similarity of meaning and scope through iterative comparison, ensuring internal coherence and distinctiveness. In Phase 4, these categories were reviewed for underlying patterns that could be meaningfully grouped into higher-order themes. In Phase 5, themes were refined into concise, descriptive names that reflected their scope and analytical focus, resulting in the finalization of two overarching themes as shown in Table 2. Each theme was supported by direct excerpts from the source studies, which were compiled in a Theme Category Code Excerpt summary table as indicated in Appendix D.

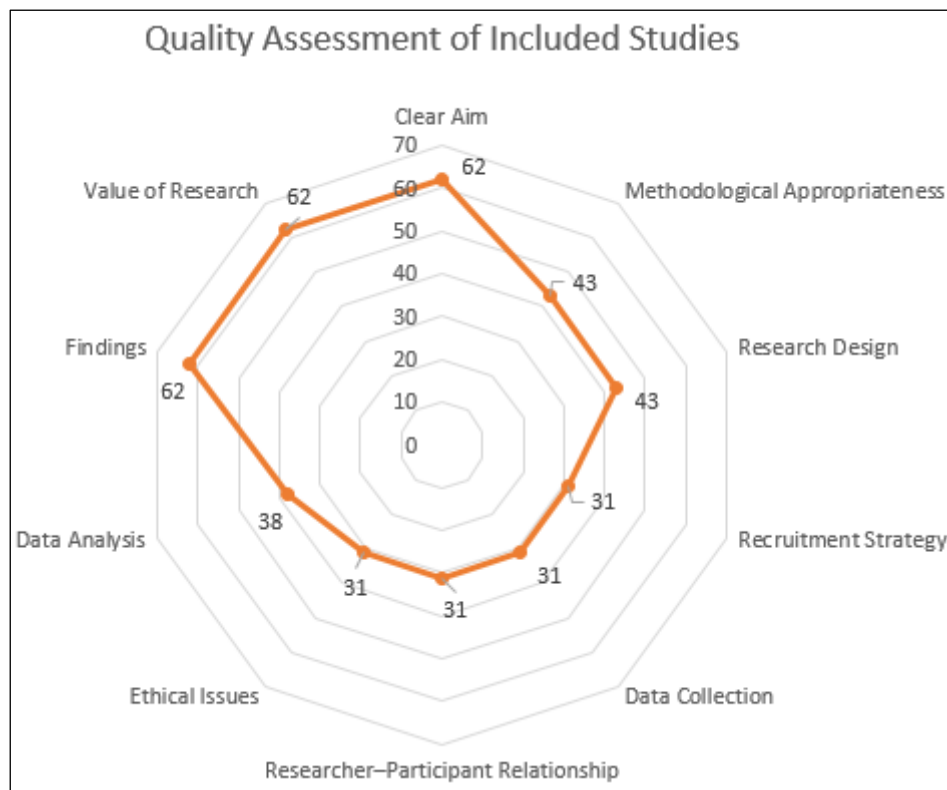


Figure 1a: Research participant relationship

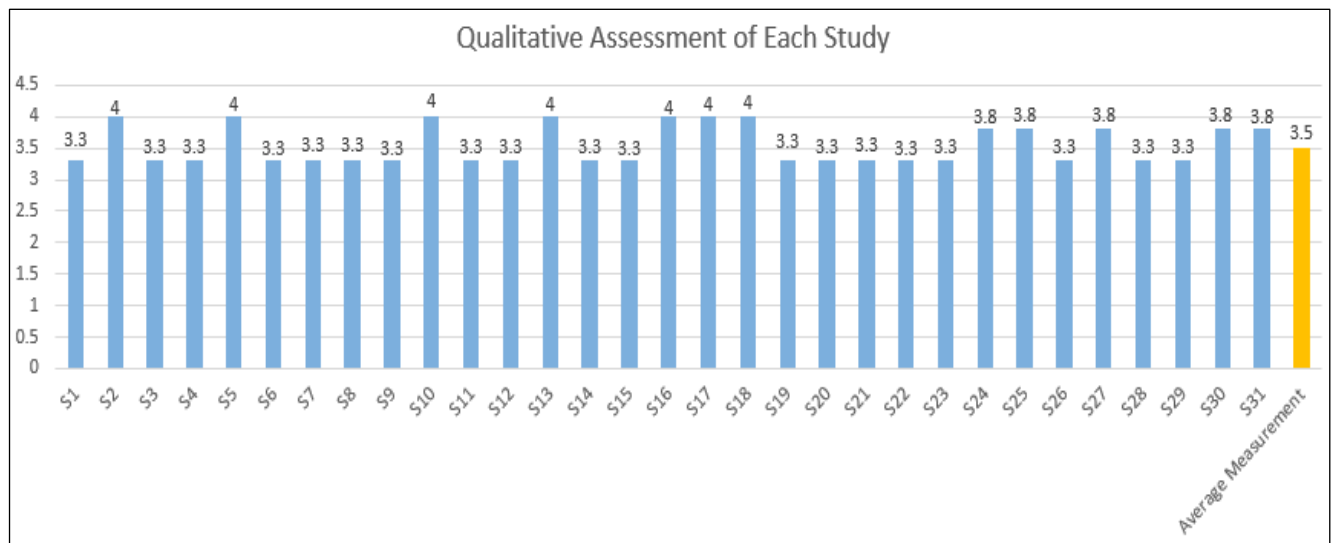


Figure 1b: Quality assessment of each study

Figure 1(a & b). Graphical presentation of included studies using quality appraisal criteria adapted from the Critical Appraisal Skills Programme (CASP) & Mixed Methods Appraisal Tool (MMAT)

3. Results

3.1 General Overview of the Analyzed Studies

This section presents a critical analysis of the selected studies. Figures 2 and 3 present the distribution of the recruited 31 studies based on the country of study and the year of publication, respectively. The analysis revealed that the selected studies were conducted in 14 World Bank-designated developing countries in Africa, Asia and North America. However, 9 (64%) of these studies were conducted in Africa, 4 (29%) in Asia and 1 (7%) in North America. Out of the 31 studies, 17 (55%) are research articles, 13 (42%) are Ph.D. theses, and 1 (3%) is a master's thesis. As per inclusion criterion 2, 12 studies used mixed-methods research, and 11 and 8 studies used qualitative and quantitative research methods, respectively.

3.2 Observation with Respect to the Research Question

The key research question that this study attempted to address is: How are motivational approaches perceived by rural K-12 teachers in developing countries?

Two main themes that emerged after the thematic analysis are financial and non-financial motivational incentives. They generally described rural K-12 teachers' perceptions of motivation approaches in rural school contexts. The findings indicate that rural teachers in the 14 developing countries perceived both financial and non-financial motivational incentives as a catalyst for their motivation as rural school teachers. These studies amount to 23% of the recruited studies. Generally, the level of teacher perception varies among the teachers. As revealed, 61% of the studies indicate non-financial motivational incentives as highly perceived by rural teachers as the driving force behind their motivation, while 16% of the studies give recognition to financial motivational incentives. Furthermore, the two main themes were then constituted by sub-themes, and they are highlighted for a comprehensive understanding of how motivational approaches are perceived by rural K-12 teachers in developing countries, as indicated in Tables 2 and 3.

3.2.1 Financial Motivational Incentives

Financial motivational incentives emerged as one of the key factors that attract and retain some teachers in rural schools. This form of incentive refers to the offering of monetary rewards in exchange for effective teaching services (Lv, 2023). In the context of this study, salary supplements, bonuses, low cost of living, cash rewards and allowances were identified as financial incentives that motivate rural K-12 teachers in their teaching practice. This theme emerged from the analysis of about 16% of the selected studies conducted in Africa.

Developing nations such as Malawi and Zambia have introduced financial incentives, including the hardship allowance, to draw and keep qualified teachers in the schools of rural areas (Mwenda, 2017; Pugatch & Schroeder, 2013). The programme, which bases its implementation on salary and distance from the capital city, raises the

proportion of qualified teachers in rural schools (Mwenda, 2017). This kind of incentive motivated competent teachers to be retained in difficult-to-staff areas like rural settings (Lv, 2023; Pugatch & Schroeder, 2013). Additionally, the allocation of bonuses for assigning teachers and other civil servants to far-flung locations was also prevalent in the analyzed studies as a practice in most developing countries (Acheampong & Gyasi, 2019; Chakandinakira, 2016; Nweneka, 2019).

Table 2: Emerged Theme 1 and Sub-themes

Theme	Sub-themes
Financial motivational incentives	• Rural allowance and bonuses • Cash rewards • Salary supplements

Table 3: Emerged Theme 2 and Sub-themes

Theme	Sub-themes
Non-financial motivational incentives	• Social activities and benefits • School leadership style, recognition, autonomy • Involvement in decision-making • Good collegial relationships and relatedness • Professional development • Parent-teacher associations

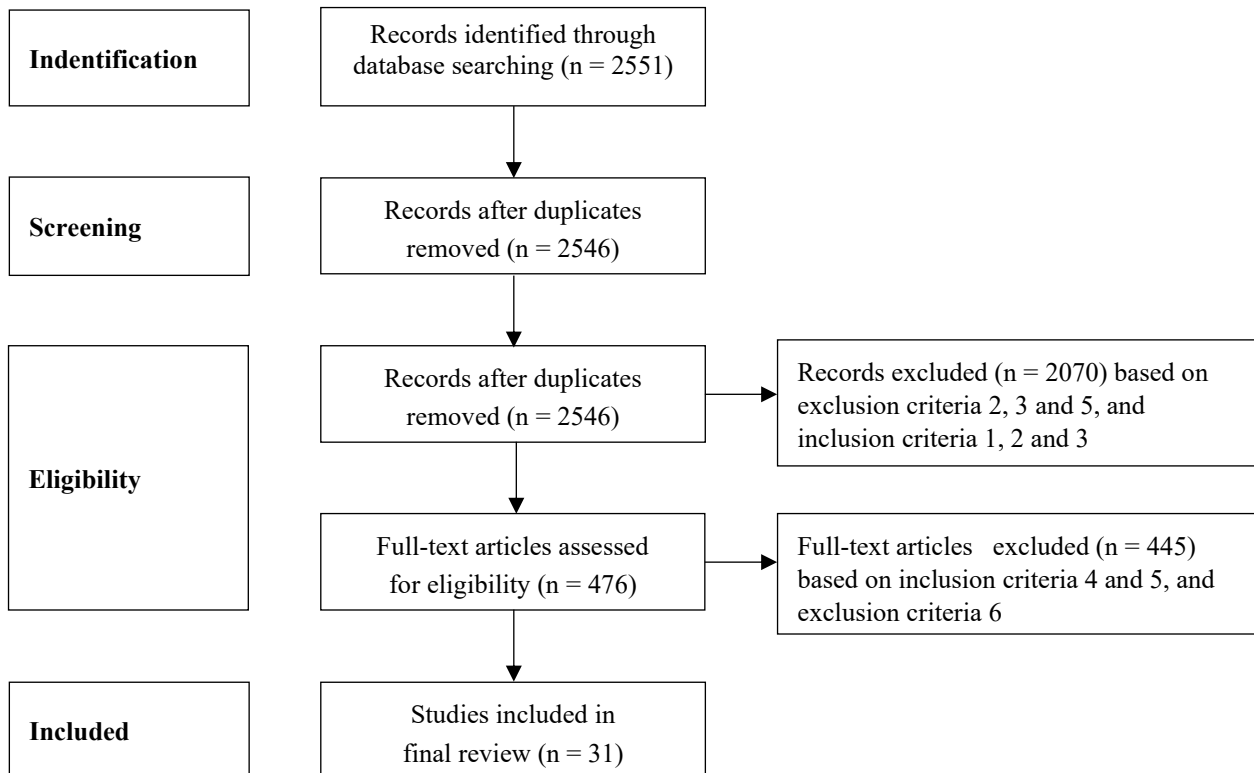
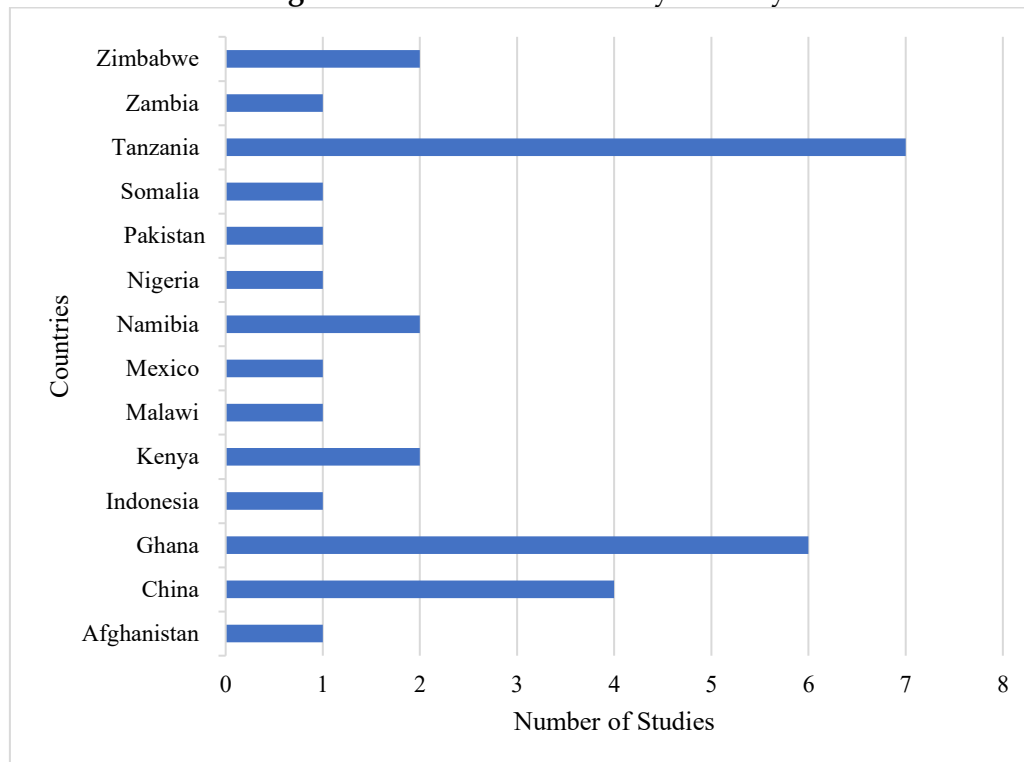


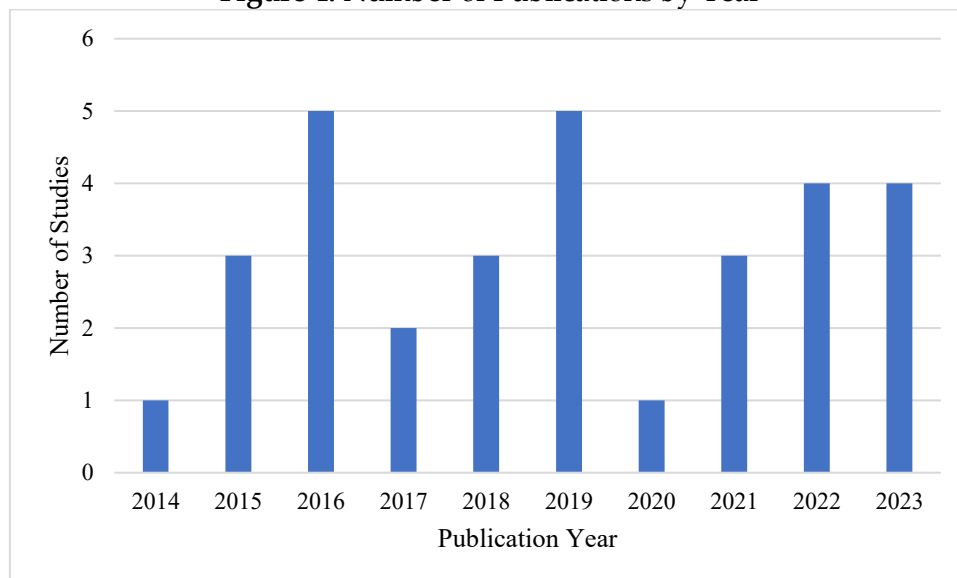
Figure 2: Workflow of the Search Process

Figure 3: Number of Studies by Country



Source: Author's Analysis (2024).

Figure 4: Number of Publications by Year



Source: Author's Analysis (2024).

The analysis further revealed that the motivation of teaching in rural areas is also impacted by the low cost of living and cash rewards in rural schools (Eutimi, 2018; Shikalepo, 2018). This motivational strategy gives some comfort to low-salary earners among teachers in rural schools (Shikalepo, 2018). Research has also revealed that financial incentives such as offering competitive salaries, bouses and other benefits for rural teachers in developing countries enhanced recruitment, retention and quality of

education (Eutimi, 2018; Nweneka, 2019; Shikalepo, 2019). These incentives can reduce turnover rates, promote community development and encourage innovative teaching methods (Eliasu & Adjeiwaa, 2021). These approaches to teacher motivation are extrinsic in nature and are grounded in the Expectancy Theory of motivation, which posits that motivation is determined by the interplay of valence, instrumentality, and expectancy (Gaspard *et al.*, 2022; Lazarides *et al.*, 2023). Therefore, employees are motivated to work when they anticipate receiving a reward that they perceive as valuable (Solami, 2022). In that regard, it will be imperative that, to raise the caliber of education in rural areas, educational officials and administrators should include these kinds of incentives and rewarding strategies in their recruitment and retention plans (Yeboah & Adom, 2016).

3.2.2 Non-financial Motivational Incentives

Non-financial motivational incentives refer to motivational rewards that do not involve physical cash (William, 2015). The analysis reveals that non-financial incentives such as professional development opportunities, recognition, autonomy, leadership styles, social activities and benefits, parent-teacher association, collegial relationships and relatedness emerged as the key factors that motivate rural teachers (Sampelolo *et al.*, 2022; Shikalepo, 2019; Solami, 2022; Yeboah & Adom, 2016). These incentives are crucial in motivating teachers to stay in rural schools, as 61% of the selected studies indicated that rural teachers have perceived the non-financial motivational incentives as the key motivational factors. These incentives enhance skills, promote autonomy, and enhance work-life balance, while also making teaching more effective (Alhassan & Libanus, 2021; William, 2015).

A study on teacher motivation in rural areas indicated three types of motivations: social activities, self-desire, and involvement in decision-making (Sampelolo *et al.*, 2022). Both native and non-native teachers have indicated that they are motivated by social activities in the community and that this boosts their willingness to continue teaching in their assigned rural area (Eutimi, 2018). However, self-desire is another factor highlighted by the teachers that significantly motivates and impacts their desire to teach (Zhai, 2019). The involvement in decision-making regarding academic and society-related issues also plays a significant role in teachers' motivations in rural areas, as it significantly gives them a sense of belonging (Mrisho *et al.*, 2023). It also enables teachers to culturally immerse themselves in rural settings, which deepens their connection to their students and fosters mutual respect and understanding between them and the community (Sampelolo *et al.*, 2022; Solami, 2022). These findings agree with studies conducted by Mark (2015). These motivational incentives can be regarded as the key motivational factors that are grounded in self-determination theory and social cognitive theory of motivation (Badjie & Velankar, 2023; Alhassan & Libanus, 2021; Ryan & Deci, 2000; Schunk & DiBenedetto, 2020).

Secondary school teachers in Kinondoni municipality in Tanzania opined that professional advancement, a conducive work environment, respect, effective communication and teacher involvement in decision-making are the key factors that

motivate them to stay at the rural schools (Gomba, 2017; Kulwa & Mwila, 2022). Another study found that an increase in the provision of these incentives will enhance the productivity of rural teachers (Mark, 2015). Therefore, school administrators in developing countries should prioritize staff professional growth, timely promotions, and timely recognition of commendable efforts (Kyeremeh, 2021; Lukumay, 2021).

Teacher professional development for in-service teachers has also been perceived by rural teachers as a motivational factor (Dahri *et al.*, 2024; Inusah, 2014). The research conducted by Liu *et al.* (2022) shows that the lack of professional development programmes for the continuous capacity development of teachers is the reason behind teacher shortage in rural schools (Fungo, 2020; Gomba, 2017; Inusah, 2014). Professional networking, collegial relationships and relatedness among teachers are further highlighted as critical factors of teacher motivation in rural schools (Gomba, 2017; Farooq Haidari *et al.*, 2023; Kulwa & Mwila, 2022; Mrisho *et al.*, 2023; Roux, 2018; Wambasi, 2015).

Rural teachers perceive that an effective and efficient leadership style coupled with recognition and autonomy may have a significant impact on teacher motivation and job satisfaction in rural schools (Rao, 2023; Ali *et al.*, 2016). A recent study further revealed that an effective leadership style inspires and motivates teachers by expressing a compelling vision for success in the teaching process and promoting a supportive and collaborative work environment (Rao, 2023). Additionally, under distributed leadership approaches, recognition, growth opportunities, autonomy and flexibility, teachers in rural schools can cultivate a culture of professionalism and accountability (Haxhihyseni *et al.*, 2023; Hyseni Duraku & Hoxha, 2021).

Furthermore, financial support, collaboration and family involvement in academic activities are mostly provided to teachers and schools by parent-teacher associations (PTAs) (Wambasi, 2015; Yasmeen *et al.*, 2019). PTAs mediate between elements within their community and those of the schools. In understanding the effects of PTAs on teachers' motivation in rural schools in Kenya, Kyale (2016) conducted a study which revealed that PTAs have a great impact on teachers' motivation due to the various support they provide. It was confirmed that resources such as science laboratories and libraries in most schools were provided by PTAs (Kyale, 2016). Teachers' motivation is also being influenced by educational tours and workshops facilitated by PTAs. In conclusion, the study confirms that PTAs' role is very crucial in enhancing teacher motivation in Mwingi Central District public secondary schools (Kyale, 2016).

4. Link between Themes and Sub-Themes Across Studies

The visual thematic matrix in Figure 5 provides a comprehensive overview of how the 31 studies on teacher motivation align with the two overarching themes, Financial Motivational Incentives and Non-Financial Motivational Incentives, and their corresponding subthemes. The matrix uses colour intensity and numerical values to indicate the frequency of occurrence of each subtheme across the reviewed studies. This

visual summary transforms the qualitative coding into a pattern map that highlights where scholarly emphasis has been strongest and where research gaps may exist.

The matrix reveals that Non-Financial Motivational Incentives are more frequently represented across the studies than financial ones. This finding echoes the broader literature on teacher motivation in developing and rural contexts, which often emphasizes the intrinsic, social, and professional dimensions of motivation over purely monetary drivers. Many studies recognize that while financial rewards address teachers' basic needs, non-financial incentives sustain long-term commitment, professional growth, and job satisfaction.

In contrast, Financial Incentives, though crucial, tend to produce short-term motivation linked to basic survival needs. They appear less frequently across studies but remain essential in addressing teacher motivation in remote or underserved areas.

The non-financial side of the matrix is dominated by two highly recurring subthemes (Professional Development and School Leadership Style, Recognition, and Autonomy). Professional development appears most frequently, reflecting widespread recognition that teachers' motivation is sustained when opportunities for training, career progression, and capacity building are accessible. Studies across The Gambia, Malawi, Tanzania, and China highlighted how upgrading programmes, workshops, and promotions not only enhance pedagogical competence but also reinforce self-efficacy and professional pride (Badjie & Velankar, 2023; Shula, 2023; Mgaiwa, 2023).

The second major cluster, leadership style, recognition, and autonomy, highlights the key role of school management and recognition systems. Several studies (Yeboah & Adom, 2016; Madsen, 2020; Kyale, 2016) indicated that supportive leadership, participatory decision-making, and acknowledgment of effort lead to greater job satisfaction and intrinsic motivation. This aligns with Self-Determination Theory (SDT), which emphasizes autonomy and competence as psychological drivers of motivation. Other non-financial subthemes, such as collegial relationships and social activities and benefits, though less frequent, still emerged as significant in contexts where teachers work in isolation or resource-deprived environments. Studies suggested that a sense of community belonging and collaborative work cultures help offset the effects of financial constraints.

On the financial side, the most frequently coded subthemes were salary supplements and rural allowances and bonuses. These subthemes indicate that financial stability remains a foundational motivator, especially in rural postings where living costs are high, and working conditions are difficult. Studies from Ghana, Malawi, and Tanzania (Yeboah & Adom, 2016; Mwenda, 2017; Eutimi, 2018) emphasized the positive impact of rural allowances and bonuses in retaining teachers in hard-to-reach regions. Similarly, salary supplements and top-up payments (Lv, 2023; Abraham & Prasetyo, 2021) were found to improve teacher morale by reducing economic pressure. However, the matrix also illustrates that these financial motivators often operate in synergy with non-financial ones. For instance, salary increments improved satisfaction only when accompanied by fair leadership and career growth opportunities. This pattern reinforces

Herzberg’s Two-Factor Theory, where salary and allowances act as “hygiene factors” that prevent dissatisfaction, but recognition, autonomy, and development opportunities are the true “motivators.”

The matrix highlights a complementary relationship between financial and non-financial motivators. While financial incentives ensure teachers’ basic survival and retention, non-financial motivators sustain their intrinsic drive and professional identity. The studies collectively indicate that the most effective teacher motivation systems are integrated approaches combining monetary rewards with leadership support, participatory management, and capacity-building initiatives. It is also evident from the heatmap that certain areas remain underexplored, such as parent–teacher association involvement and decision-making participation. Few studies addressed these subthemes directly, suggesting a potential empirical gap in understanding how community engagement and teacher voice influence motivation in rural education systems.

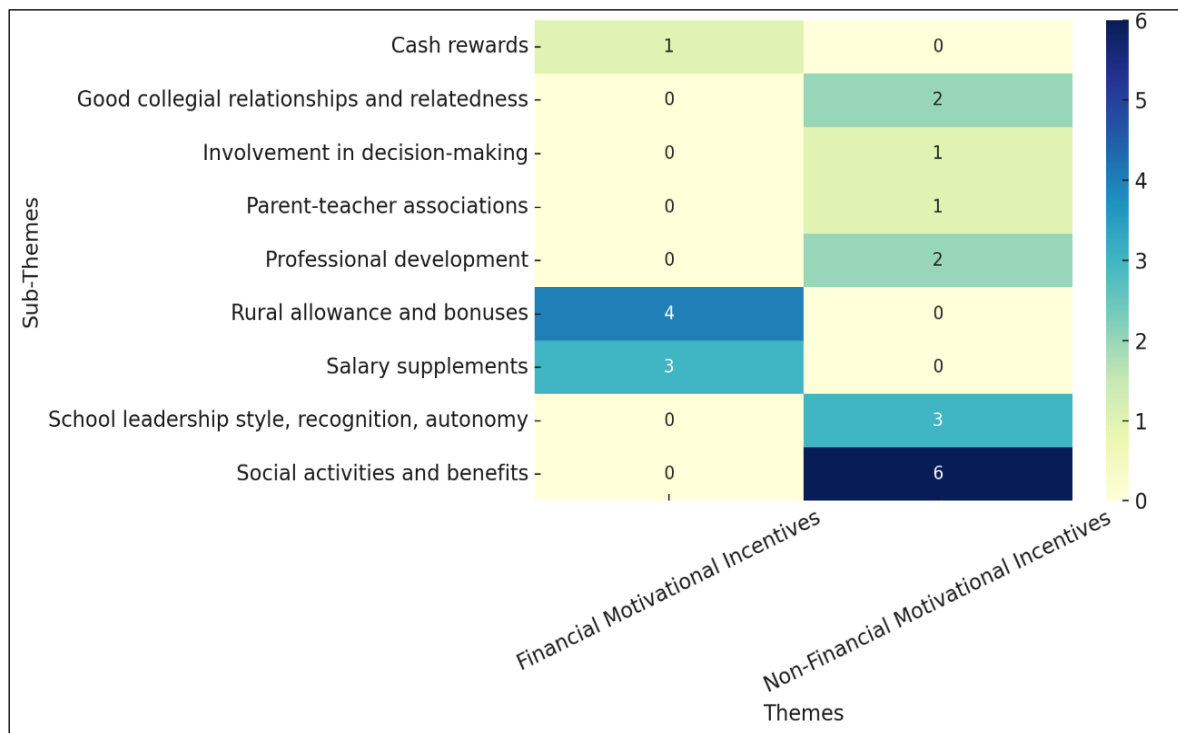


Figure 5: Thematic Matrix

5. Discussion

Teacher motivation and success in teaching and learning cannot be disintegrated especially in rural areas where adverse challenges are inevitable (Shikalepo, 2019). This study seeks to understand motivation approaches from the perspectives of rural K-12 teachers in developing countries. This study reviewed 31 empirical studies that were conducted in 14 developing countries. More than 60% of these countries are in Africa. The findings of the analysis revealed two main themes: financial and non-financial motivational incentives. Financial incentives, such as salary supplements and bonuses,

attract and retain teachers, enhance recruitment and ensure quality of delivery (Alhassan & Libanus, 2021; Wambasi, 2015). These findings are consistent with the findings of Eutimi (2018), who investigated teachers' job satisfaction in relation to financial motivation in rural Tanzania.

Non-financial motivational incentives, such as professional development opportunities and recognition, enhance skills, autonomy, and work-life balance. Social activities, self-desire, and involvement in decision-making are also key motivational factors (Sampelolo *et al.*, 2022). In-service teacher professional development, professional networking, collegial relationships, and relatedness are also crucial in motivating teachers to work in rural areas in developing countries (Alhassan & Libanus, 2021; Liu *et al.*, 2022; Lukumay, 2021; Mrisho *et al.*, 2023). Effective school leadership style, recognition, autonomy, and transformational leadership also emerged as influential motivational factors for job satisfaction. Parent-teacher associations (PTAs) also play a crucial role in motivating teachers in rural schools (Alhassan & Libanus, 2021; Kyale, 2016). These findings confirmed the findings of Sahito & Vaisanen (2020) in their study to understand teachers' job satisfaction in developing countries.

The findings of this review also contribute to the discourse on adult education by demonstrating the importance of continuous professional learning in sustaining teacher motivation in rural schools. Professional development opportunities, collegial learning, mentoring, and participation in educational decision-making are central elements of adult learning environments. Rural teachers, as adult learners, require supportive systems that encourage reflection, collaboration, and lifelong learning. The study therefore reinforces the argument that teacher motivation policies should be integrated into broader adult education and lifelong learning frameworks, particularly in developing countries where teachers often face professional isolation and limited access to continuing education opportunities.

The study also reveals that the motivation of teachers in rural areas is significantly influenced by various factors. Key challenges include financial constraints, poor working conditions, cultural and societal challenges, lack of professional development opportunities, inadequate recognition and reward systems, and social isolation (Alhassan & Libanus, 2021; Kyale, 2016; Wambasi, 2015). Financial incentives are often underpaid, leading to dissatisfaction and increased teacher turnover (Ali *et al.*, 2016). Poor working conditions, such as poor buildings, lack of materials, and little administration support, lead to burnout and a sense of isolation (Farooq Haidari *et al.*, 2023). Cultural expectations and societal norms in rural communities can also challenge motivation, as opposition from parents and community members can create a challenging environment (Inusah, 2014). Lack of professional development opportunities leads to teachers feeling stuck in their careers and unqualified (Fungo, 2020). Additionally, social isolation and lack of community support further weaken motivation (Mrisho *et al.*, 2023). To address these challenges, educational authorities and policymakers should develop comprehensive policies that integrate incentives, working conditions, professional

development opportunities, community involvement and recognition systems (Liu *et al.*, 2022).

The average methodological quality score of 3.5 indicates that the included studies were generally of moderate-to-high quality. This provides reasonable confidence in the consistency of the synthesized findings while also suggesting that some evidence should be interpreted cautiously. The research is also limited by the exclusion of the Web of Science database due to subscription constraints, potentially omitting relevant studies, particularly those from Europe, Latin America, and Oceania. This limitation results in the primary focus being on studies from Africa (64%) and Asia (29%). Thus, the findings are most relevant to rural education systems in developing countries.

5.1 Towards an Integrated Theory of Rural Teacher Motivation

A key contribution of this review extends beyond identifying motivational approaches to explaining why certain motivational strategies are more influential than others in rural schools within developing countries. While both financial and non-financial incentives were found to influence teachers' motivation, the synthesis demonstrates that these motivational approaches do not operate independently. Rather, they function as complementary mechanisms that satisfy different categories of teachers' professional, psychological, and social needs.

One of the most significant findings of this review is that non-financial motivational incentives were identified in 61% of the reviewed studies as the primary drivers of teacher motivation, whereas financial incentives were emphasized in only a smaller proportion of studies. At first glance, this finding appears counterintuitive, particularly because rural schools in developing countries are commonly characterized by low salaries, inadequate infrastructure, and difficult working conditions. Conventional assumptions would therefore suggest that financial incentives should dominate teachers' motivational priorities. However, the evidence synthesized in this review suggests a more complex motivational process.

Financial incentives primarily satisfy teachers' immediate economic needs. Rural allowances, salary supplements, bonuses, and cash rewards reduce financial hardship, improve recruitment, and encourage teachers to accept postings in remote locations. These incentives therefore serve an important recruitment and retention function by addressing what Herzberg's Two-Factor Theory describes as *hygiene factors*. Hygiene factors reduce dissatisfaction but do not necessarily create long-term professional commitment. In many of the reviewed studies, salary improvements were appreciated by teachers but were rarely described as sufficient to sustain enthusiasm, commitment, or instructional innovation over extended periods.

Instead, sustained motivation appeared to emerge when teachers experienced opportunities for professional growth, meaningful recognition, supportive leadership, participation in decision-making, and strong collegial relationships. These findings suggest that once teachers perceive a reasonable level of financial security, their motivational priorities gradually shift from economic survival toward psychological

fulfilment and professional identity. This transition reflects the central propositions of Self-Determination Theory (SDT), which argues that individuals become intrinsically motivated when three fundamental psychological needs are satisfied: autonomy, competence, and relatedness.

This review provides substantial evidence supporting each of these three psychological dimensions. Teachers reported higher levels of motivation when they participated in school decision-making, reflecting the need for autonomy. Similarly, professional development opportunities, mentoring, career progression, and continuous learning strengthened teachers' perceptions of competence by enhancing their instructional skills and professional confidence. Collegial relationships, supportive school leadership, community acceptance, and parent-teacher collaboration fulfilled teachers' need for relatedness by fostering a sense of belonging and professional identity. Collectively, these motivational experiences explain why non-financial incentives often exert stronger and more enduring effects on teacher motivation than financial rewards alone.

However, SDT alone does not fully explain how these motivational processes develop within rural school environments. Social Cognitive Theory (SCT) complements this explanation by emphasizing the reciprocal interaction between individuals, their behavior, and their social environment. Teachers continuously observe, learn from, and respond to their professional contexts. Supportive principals, experienced colleagues, mentoring relationships, collaborative professional communities, and positive community engagement function as important sources of social modelling that strengthen teachers' self-efficacy. As teachers gain confidence in their instructional abilities, they become increasingly resilient, innovative, and committed despite challenging working conditions. Consequently, motivation becomes not merely an individual psychological state but also a socially constructed process reinforced through professional interactions and organizational culture.

Taken together, Herzberg's Two-Factor Theory, Self-Determination Theory, and Social Cognitive Theory provide a complementary rather than competing explanation of rural teacher motivation. Herzberg explains why financial incentives remain necessary for reducing dissatisfaction and attracting teachers to rural schools. Self-Determination Theory explains why intrinsic psychological needs become increasingly important once minimum working conditions are achieved. Social Cognitive Theory further explains how supportive organizational environments, professional collaboration, and leadership practices reinforce teachers' beliefs in their own capabilities, thereby sustaining motivation over time.

Building upon this synthesis, this study proposes an Integrated Rural Teacher Motivation Model comprising three sequential but interacting motivational processes. The first process involves economic stabilization, where salaries, allowances, and other financial incentives reduce dissatisfaction and encourage teachers to remain in rural schools. The second process involves psychological empowerment, where opportunities for autonomy, professional learning, recognition, and career development satisfy

teachers' intrinsic motivational needs. The third process involves social reinforcement, whereby supportive leadership, collegial relationships, mentoring, and community engagement strengthen teachers' professional identity and self-efficacy. Rather than operating independently, these three processes reinforce one another to produce sustained teacher motivation, improved instructional quality, stronger professional commitment, and ultimately better educational outcomes.

This integrated interpretation also explains why policies that rely exclusively on salary increases frequently produce only temporary improvements in teacher retention. Financial incentives may encourage teachers to accept rural appointments, but they rarely sustain long-term commitment if teachers continue to experience professional isolation, limited opportunities for advancement, weak instructional leadership, or exclusion from institutional decision-making. Conversely, non-financial incentives alone may be insufficient when teachers struggle to meet basic economic needs. This study therefore suggests that sustainable teacher motivation requires a balanced combination of financial support, professional development, supportive leadership, and collaborative school cultures.

Accordingly, the model proposed in this study should not be interpreted as a simple classification of motivational factors. Rather, it represents an integrated motivational system in which financial incentives create the conditions for teacher retention, psychological needs foster intrinsic commitment, and supportive organizational environments reinforce long-term professional engagement. This theoretical integration extends previous literature by demonstrating that effective teacher motivation in rural schools cannot be understood through a single motivational theory. Instead, it emerges from the dynamic interaction between economic conditions, psychological fulfilment, and social learning processes operating simultaneously within complex educational environments.

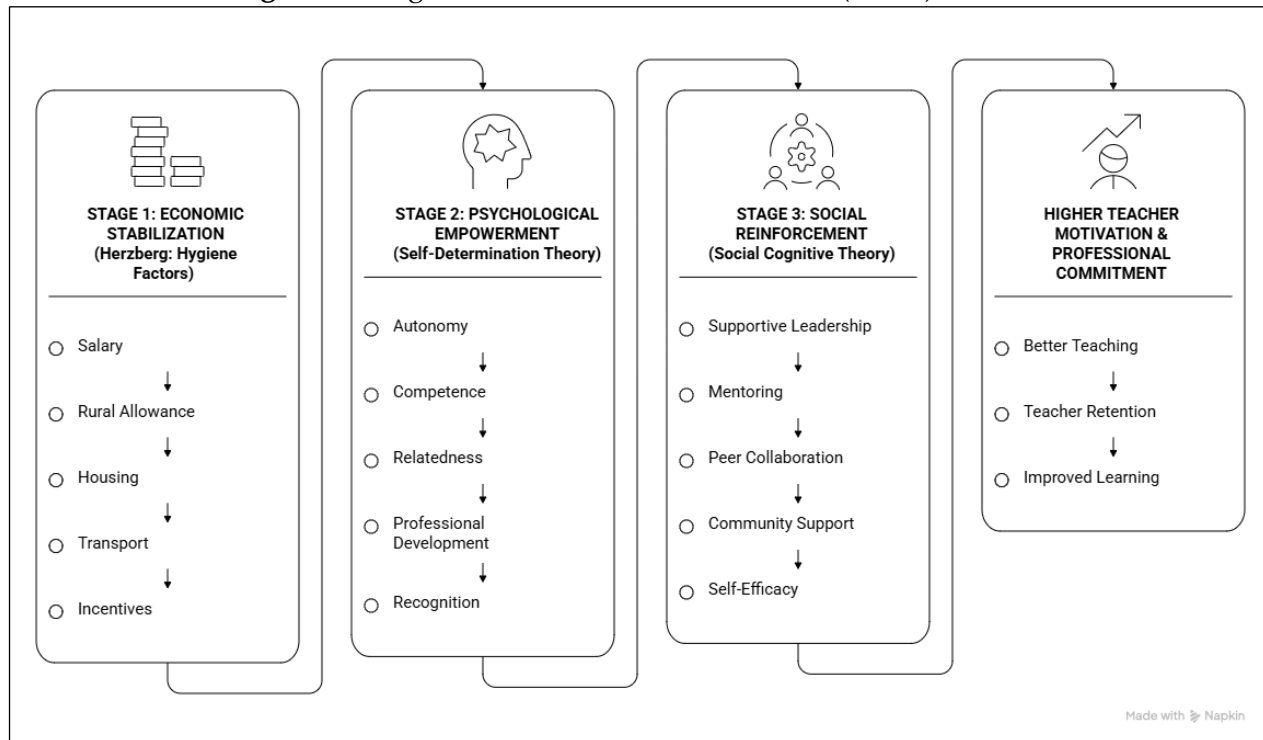
6. Proposed Integrated Rural Teacher Motivation (IRTM) Model

6.1 Conceptual Foundation

The Integrated Rural Teacher Motivation (IRTM) Model is developed from the synthesis of evidence generated through this systematic review and integrates three complementary motivational theories: Herzberg's Two-Factor Theory, Self-Determination Theory (SDT), and Social Cognitive Theory (SCT). Rather than viewing these theories as competing explanations, the IRTM model demonstrates that they explain different but interconnected dimensions of teacher motivation operating simultaneously within rural education systems.

The model argues that sustainable teacher motivation is a dynamic process that evolves through three interrelated stages: economic stabilization, psychological empowerment, and social reinforcement. These stages collectively influence teachers' professional commitment, instructional effectiveness, retention, and ultimately educational quality in rural schools.

Figure 6: Integrated Rural Teacher Motivation (IRTM) Model



Source: Developed by the Author (2024).

Stage One: Economic Stabilization

The first stage recognizes that financial incentives remain essential for attracting and retaining teachers in rural schools. Rural hardship allowances, competitive salaries, housing support, transportation assistance, and other financial benefits reduce economic insecurity and compensate teachers for the additional costs and hardships associated with rural postings.

Consistent with Herzberg's Two-Factor Theory, these incentives function primarily as hygiene factors. Their principal role is to reduce dissatisfaction rather than generate intrinsic motivation. Financial incentives therefore establish the minimum conditions necessary for teachers to remain in rural schools but are generally insufficient to sustain long-term professional commitment.

This stage explains why governments often succeed in recruiting teachers through financial incentives yet continue to experience high turnover when broader professional needs remain unmet.

Stage Two: Psychological Empowerment

Once teachers' basic economic concerns are reasonably addressed, motivational priorities shift toward intrinsic psychological needs. Drawing upon Self-Determination Theory, the IRTM model proposes that long-term motivation depends on satisfying three fundamental psychological needs:

- **Autonomy** is strengthened when teachers participate in school decision-making, curriculum adaptation, instructional planning, and school governance.

- **Competence** develops through professional development opportunities, mentoring, coaching, continuous learning, career progression, and constructive feedback that increase teachers' confidence in their instructional abilities.
- **Relatedness** emerges through supportive relationships with school leaders, colleagues, learners, parents, and the wider community, creating a sense of belonging and professional identity.

This review demonstrates that these non-financial incentives consistently generate stronger and more enduring motivational effects than financial rewards alone because they address teachers' higher-order psychological needs. Teachers who perceive themselves as valued professionals are more likely to demonstrate commitment, creativity, resilience, and instructional effectiveness despite challenging rural conditions.

Stage Three: Social Reinforcement

The third stage extends beyond individual psychology by recognizing that teacher motivation is continually shaped through interaction with the surrounding social and organizational environment. Social Cognitive Theory provides the theoretical explanation for this process.

Teachers continuously observe, interpret, and learn from their professional experiences. Supportive principals, experienced colleagues, mentoring relationships, collaborative professional learning communities, community recognition, and successful peer role models strengthen teachers' beliefs in their own capabilities (self-efficacy).

High levels of self-efficacy encourage teachers to:

- persist during challenging situations;
- adopt innovative instructional practices;
- collaborate with colleagues;
- engage learners more effectively; and
- remain committed to rural schools.

Conversely, weak leadership, professional isolation, poor community relationships, and limited peer support undermine self-efficacy and gradually reduce motivation, regardless of financial incentives.

6.2 Dynamic Interaction Among the Three Stages

The IRTM model emphasizes that these three stages do not operate sequentially in isolation. Instead, they reinforce one another through continuous feedback mechanisms. Financial incentives create the conditions necessary for teacher retention. Psychological empowerment transforms retained teachers into committed professionals. Social reinforcement sustains that commitment through positive organizational cultures and supportive professional relationships.

Similarly, improvements in social support often increase teachers' willingness to participate in professional development, while enhanced professional competence increases teachers' confidence, leading to stronger workplace relationships and higher

instructional performance. These reciprocal relationships create a continuous cycle of motivation and professional growth.

6.3 Expected Outcomes of the IRTM Model

When all three motivational dimensions function effectively, the model can predict several positive outcomes:

- increased teacher motivation;
- improved job satisfaction;
- enhanced instructional quality;
- stronger professional commitment;
- reduced teacher turnover;
- improved learner outcomes;
- stronger school-community relationships; and
- sustainable educational quality in rural schools.

However, failure in any one dimension may weaken the overall motivational system. Financial incentives without professional support produce only temporary retention. Professional development without adequate remuneration creates frustration. Supportive leadership without opportunities for professional growth limits long-term engagement. Sustainable motivation therefore requires balanced investment across all three dimensions.

6.4 Contribution of the IRTM Model

The principal contribution of the Integrated Rural Teacher Motivation Model is that it moves beyond traditional explanations that treat financial and non-financial incentives as independent motivational factors. Instead, the model conceptualizes teacher motivation as an integrated system in which economic conditions, psychological needs, and social learning processes interact to influence professional behavior.

This integrated perspective offers a more comprehensive explanation of rural teacher motivation than any single motivational theory and provides a stronger theoretical foundation for designing teacher motivation policies in low-resource educational contexts. It also provides a practical framework for policymakers by demonstrating that effective rural teacher retention strategies should combine adequate financial support, opportunities for professional growth, and supportive institutional environments rather than relying on isolated interventions.

6.5 Contextual Boundaries of the Integrated Rural Teacher Motivation (IRTM) Model

The Integrated Rural Teacher Motivation (IRTM) Model proposed in this study should be interpreted within the institutional and socio-economic contexts represented by the evidence synthesized in this review. Of the 31 empirical studies included, approximately 64% were conducted in African countries and 29% in Asian countries, with only a small proportion originating from other regions. Consequently, the model is primarily informed by evidence from low- and middle-income countries characterized by resource

constraints, teacher shortages, uneven educational infrastructure, and persistent disparities between urban and rural schools.

This geographical distribution has important implications for the transferability of the proposed model. Although the motivational processes identified in this review are theoretically grounded in well-established motivational theories and are therefore likely to have broad relevance, the relative importance of specific motivational factors may vary considerably across different educational governance systems and institutional contexts. Consequently, the IRTM Model should be viewed as a context-sensitive rather than a universally applicable framework.

One important distinction concerns the degree of centralization within national education systems. Countries such as China operate under a highly centralized education governance structure in which teacher recruitment, deployment, remuneration, promotion, curriculum implementation, and professional development are largely coordinated by central or provincial authorities. Within such systems, teacher motivation is often influenced by nationally standardized career structures, government-funded professional development programmes, and centrally administered performance evaluation mechanisms. Consequently, financial incentives, promotion pathways, and institutional support tend to be implemented more consistently across regions, thereby reducing disparities between rural and urban schools.

In contrast, many countries in Sub-Saharan Africa, including Ghana, Kenya, Tanzania, Zambia and Nigeria operate decentralized or semi-decentralized education systems where local education authorities, district offices, school management committees, communities, development partners, and non-governmental organizations frequently complement national government efforts in supporting rural schools. Under these conditions, the quality of school leadership, community participation, availability of professional development opportunities, and access to teaching resources often vary substantially between districts and institutions. Consequently, teachers' motivation becomes more strongly influenced by localized organizational cultures, community relationships, and institutional leadership than by nationally standardized incentive structures alone.

These contextual differences help explain why non-financial motivational approaches emerged as particularly influential across the studies included in this review. In many resource-constrained education systems, governments face fiscal limitations that restrict their ability to provide substantial salary increases or comprehensive financial incentive packages. As a result, schools increasingly rely on alternative motivational strategies such as supportive leadership, recognition, mentoring, collaborative professional learning, career development opportunities, and positive community engagement to sustain teacher commitment. These approaches strengthen teachers' professional identity, enhance self-efficacy, and satisfy intrinsic psychological needs, thereby compensating, to some extent, for financial and infrastructural constraints.

Conversely, in higher-income or more centralized education systems where competitive remuneration, comprehensive welfare benefits, and structured career

progression are already institutionalized, financial incentives may play a less prominent motivational role because teachers' basic economic needs are largely satisfied. Under such conditions, motivational priorities may increasingly shift toward professional autonomy, innovation, workload management, instructional leadership, and opportunities for educational research and specialization. Accordingly, the balance between financial and non-financial motivational factors is likely to differ according to the maturity, governance structure, and resource capacity of individual education systems.

The findings of this review therefore suggest that the IRTM Model is most applicable to rural education systems operating under conditions similar to those represented in the reviewed studies namely, developing countries characterized by constrained resources, persistent rural teacher shortages, decentralized or mixed governance arrangements, and significant disparities in educational infrastructure. While the three core dimensions of the model economic stabilization, psychological empowerment, and social reinforcement are likely to remain relevant across diverse settings, their relative influence and practical implementation should be adapted to national policy environments, institutional arrangements, and socio-cultural conditions. Future empirical studies should therefore validate the IRTM Model across different geographical regions, governance systems, and income contexts, including high-income countries, Latin America, Europe, and Oceania. Such comparative studies would enable researchers to determine the extent to which the relationships proposed in the model remain stable across diverse educational systems and to identify context-specific adaptations that may enhance its broader applicability.

7. Implications for Educational Practice and Policy Makers

The findings of this review have significant implications for educational practice, particularly for school leaders seeking to improve teacher motivation and retention in rural schools. The Integrated Rural Teacher Motivation (IRTM) Model demonstrates that sustainable teacher motivation cannot be achieved through isolated interventions but requires a balanced integration of financial support, psychological empowerment, and supportive organizational environments. Consequently, schools should move beyond traditional motivation strategies that emphasize either financial rewards or professional development alone and instead adopt comprehensive teacher motivation plans that address teachers' economic, psychological, and social needs simultaneously.

At the school level, educational leaders should recognize that financial incentives represent only the foundation of teacher motivation. While salaries, rural hardship allowances, housing support, and transport assistance remain essential for attracting and retaining teachers in underserved communities, these incentives primarily reduce dissatisfaction rather than generate sustained professional commitment. Once teachers' basic economic needs are reasonably satisfied, school leaders should intentionally create conditions that promote psychological empowerment through professional autonomy,

continuous learning opportunities, recognition of excellence, and meaningful participation in school governance. Such practices enable teachers to experience competence, autonomy, and relatedness, thereby strengthening their intrinsic motivation and professional identity.

The review further demonstrates that supportive organizational cultures play a critical role in sustaining teacher motivation over time. School leaders should therefore establish structured mentoring programmes, peer-learning communities, lesson study groups, teacher-led innovation projects, and collaborative professional learning teams that encourage teachers to learn from one another and collectively address instructional challenges. These collaborative structures reinforce teachers' self-efficacy through observation, modelling, feedback, and shared professional experiences, consistent with the principles of Social Cognitive Theory. By fostering positive professional relationships and supportive leadership practices, schools can reduce professional isolation, particularly in remote rural communities where teachers often experience limited access to professional networks.

Professional development should similarly be reconceptualized as a continuous process of lifelong professional learning rather than a series of isolated workshops. Rural teachers require sustained opportunities for coaching, mentoring, reflective practice, peer observation, action research, and collaborative problem-solving that enable them to continually strengthen their instructional competence throughout their careers. Such approaches not only improve classroom practice but also reinforce teachers' confidence, resilience, and commitment to the profession. Educational leaders should therefore embed continuous professional learning within school improvement strategies rather than treating it as an occasional administrative activity.

The findings also carry important implications for policymakers responsible for teacher management and educational reform. The IRTM Model suggests that teacher motivation policies should be designed as integrated systems rather than collections of independent incentive programmes. Governments should therefore ensure that financial incentive schemes are complemented by institutional policies that promote professional growth, supportive leadership, career progression, recognition, and collaborative learning environments. Investment in salaries alone is unlikely to produce sustained improvements in teacher motivation if teachers continue to experience professional isolation, weak instructional leadership, or limited opportunities for career advancement. Conversely, professional development initiatives are unlikely to achieve their intended outcomes when teachers face persistent financial hardship or inadequate working conditions. Effective teacher motivation policies should therefore integrate economic stabilization, psychological empowerment, and social reinforcement as complementary policy objectives rather than competing priorities.

From a lifelong learning and adult education perspective, policymakers should recognize that teachers are adult learners whose professional growth extends throughout their careers. Teacher professional development should therefore be institutionalized as a continuous lifelong learning process supported by flexible learning pathways,

competency-based progression, blended professional learning, professional learning communities, mentoring networks, and workplace learning opportunities. Such approaches are consistent with adult learning principles that emphasize self-directed learning, experiential reflection, collaborative knowledge construction, and continuous professional improvement. Community-based professional learning centres, digital learning platforms, and regional teacher learning hubs could provide accessible opportunities for rural teachers to continually update their knowledge and skills while reducing geographical barriers to professional development.

The review further highlights the importance of strengthening recognition systems that acknowledge teachers' professional contributions beyond financial compensation. Policymakers should institutionalize transparent teacher recognition frameworks that include competency-based promotion systems, annual teaching excellence awards, professional certification pathways, leadership development programmes, and structured opportunities for career progression. Recognition not only enhances morale and professional identity but also strengthens teachers' perceptions of fairness, competence, and organizational commitment. These mechanisms are particularly important within rural schools, where teachers frequently report feeling professionally isolated and undervalued despite their critical contribution to national educational development.

The contextual analysis presented in this review suggests that teacher motivation policies should remain sensitive to differences in governance structures, institutional capacity, and resource availability across education systems. In highly centralized systems, governments may be better positioned to implement nationally standardized incentive packages and professional development programmes. In contrast, decentralized education systems should empower district education offices, school leaders, communities, and local stakeholders to adapt motivational strategies to local needs while maintaining national quality standards. Consequently, the practical application of the IRTM Model should be sufficiently flexible to accommodate differences in governance arrangements, socio-economic conditions, and cultural contexts while preserving its three core dimensions of economic stabilization, psychological empowerment, and social reinforcement. Such context-responsive implementation is likely to produce more sustainable improvements in teacher motivation, retention, instructional quality, and ultimately learner achievement across rural education systems.

8. Limitation

This study's limitation is evident in the limited number of databases accessed, selected studies reviewed and developing countries covered. The researcher could not include advanced databases like Web of Science due to lack of subscription hence the search was limited to Google scholar, Scopus and ERIC. The exclusion of the Web of Science database should also be considered when interpreting the findings. This is because Web of Science indexes a substantial number of international education journals, some studies

particularly those from Europe, Oceania, and Latin America may not have been retrieved. Consequently, the predominance of African and Asian evidence observed in this review may partly reflect database coverage rather than the actual global distribution of research on rural teacher motivation. Out of the 135 developing countries based on World Bank-designated countries, studies from only 14 countries were reviewed for this study. Therefore, future reviews incorporating Web of Science may provide a more geographically balanced synthesis.

9. Conclusion

Teachers remain the cornerstone of educational quality and socio-economic development, particularly in rural communities where they play a critical role in expanding educational opportunities, strengthening community resilience, and promoting sustainable national development. Ensuring that teachers remain motivated, committed, and professionally fulfilled is therefore fundamental to improving educational outcomes in developing countries. This review demonstrates that while financial incentives such as salaries, rural hardship allowances, promotions, and other monetary benefits remain essential for attracting and retaining teachers in underserved areas, sustainable motivation cannot be achieved through financial incentives alone. Long-term teacher commitment is shaped by a broader combination of professional, psychological, and social factors, including supportive leadership, continuous professional development, recognition, collaborative professional relationships, meaningful participation in school decision-making, and positive community engagement.

A major contribution of this study is the development of the Integrated Rural Teacher Motivation (IRTM) Model, which extends existing literature by conceptualizing teacher motivation as an integrated and dynamic system rather than a collection of independent financial and non-financial incentives. Drawing upon Herzberg's Two-Factor Theory, Self-Determination Theory, and Social Cognitive Theory, the model demonstrates that sustainable teacher motivation emerges through the interaction of three mutually reinforcing dimensions: economic stabilization, psychological empowerment, and social reinforcement. Economic stabilization provides the conditions necessary for recruitment and retention by reducing financial dissatisfaction; psychological empowerment strengthens teachers' autonomy, competence, and professional identity; while social reinforcement enhances teachers' self-efficacy, resilience, and long-term commitment through supportive leadership, mentoring, collaboration, and positive organizational cultures. Collectively, these dimensions provide a more comprehensive explanation of rural teacher motivation than any single motivational theory and offer a stronger theoretical foundation for future research and policy development.

This review further demonstrates that teacher motivation should be understood within the institutional and socio-economic realities of rural education systems in

developing countries. Given that most of the evidence synthesized originated from African and Asian contexts, the proposed IRTM Model should be interpreted as a context-sensitive framework that is particularly applicable to education systems characterized by constrained resources, rural teacher shortages, and decentralized or mixed governance arrangements. Although the three core dimensions of the model are theoretically relevant across diverse educational settings, their implementation should be adapted to national governance structures, institutional capacities, policy environments, and socio-cultural conditions. Consequently, effective teacher motivation policies should balance national policy direction with sufficient flexibility to accommodate local educational realities.

The findings also reinforce the importance of adopting a lifelong learning perspective in teacher development. Teachers should not be viewed solely as providers of education but also as adult learners whose professional competence, motivation, and identity continue to evolve throughout their careers. Sustained investment in continuous professional learning, mentoring, workplace learning, reflective practice, and collaborative professional communities enables teachers to strengthen their instructional competence while maintaining motivation and resilience in challenging rural environments. Embedding adult learning principles within teacher development systems therefore represents an important strategy for improving educational quality and strengthening the long-term sustainability of rural education.

From a policy perspective, the findings suggest that governments, ministries of education, teacher service commissions, and school leaders should move beyond fragmented motivation strategies by adopting integrated teacher motivation policies that simultaneously address financial security, professional growth, supportive leadership, and collaborative organizational cultures. Investment in salaries and financial incentives remains important but should be complemented by transparent career progression systems, competency-based promotion frameworks, structured mentoring programmes, teacher recognition mechanisms, and continuous professional development opportunities. Such integrated approaches are more likely to improve teacher retention, strengthen instructional quality, enhance professional commitment, and ultimately improve learner outcomes in rural schools.

Finally, this review identifies several important directions for future research. First, the Integrated Rural Teacher Motivation (IRTM) Model requires empirical validation across different geographical regions, governance systems, and socio-economic contexts, including high-income countries and regions that were underrepresented in this review, such as Latin America, Europe, and Oceania. Comparative studies examining centralized and decentralized education systems would further refine understanding of how governance structures influence teacher motivation. Second, longitudinal research is needed to examine how teachers' motivational needs evolve throughout their professional careers and across different stages of rural service. Third, mixed-methods and longitudinal studies should investigate the relationships between teacher motivation, instructional quality, learner achievement, teacher retention, and school improvement. Such research would not only validate the proposed model but

also provide stronger empirical evidence to guide policy reforms aimed at creating equitable, resilient, and sustainable teacher motivation systems capable of improving educational quality in rural schools across developing countries.

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Conflict of Interest Statement

The authors declare no conflicts of interest that could have influenced the research, authorship, or publication of this work.

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Appendix A: Summary of Included Studies

No	Authors	Title	Methodology	Participant Demographics	Sample Size	Year	Country	Key Findings
S1	Acheampong, Phinihas; Gyasi, Juliana Fosua	Teacher Retention: A Review of Policies for Motivating Rural Basic School Teachers in Ghana	Qualitative	Policymakers, Education Officials	6	2019	Ghana	Financial incentives (solar lamps, bicycles, motorbikes, district sponsorship schemes) are key for attracting and retaining teachers in rural areas.
S2	Yeboah, Akwasi; Adom, Dickson	Rural senior high school teachers motivation and its effect on their retention	Mixed method	Rural Senior High School Teachers	122	2016	Ghana	Teachers were most satisfied with financial bonuses (retention/professional allowance) and Parents and Teachers Association (PTA) motivational allowances.
S3	Shikalepo, Elock Emvula	Teacher recruitment, motivation and retention at rural schools in Namibia	Qualitative	Teachers in rural schools	35	2019	Namibia	Motivators include promotional posts, family bonds to rural areas, humane leadership, enriching experience, lower cost of living, employment opportunities for new recruits, support services, and financial incentives.
S4	Shikalepo, Elock Emvula	The influence of financial incentive on teacher motivation and learner performance in rural Namibian schools	Qualitative	Teachers in rural schools	28	2018	Namibia	While financial incentives play a role, motivation is also driven by connection to nature, lower living costs, accommodating school leadership, and community care.
S5	Lv, Tiantian	Optimization of Teacher Incentive Mechanism and Policy Supply in Rural China Based on Judgment Matrix	Mixed method	Education officials, teachers	28	2023	China	Proposes optimizing teacher incentives through improved salary schemes and promotion training mechanisms for rural teachers.
S6	Solami, Malikana	Working conditions in Zambia rural schools and their impact on teacher motivation: a case of Chiengwe district in Luapula province	Qualitative	Teachers in rural schools	30	2022	Zambia	Key motivational factors are salary, work conditions, incentives, medical allowance, security, recognition, advancement growth, pupil discipline, school policy, and status.
S7	Kyeremeh, Francis Kwaku	Teacher Motivation in Less Endowed Senior High Schools in Tain District of Bono Region	Qualitative	Teachers in less endowed SHS	21	2021	Ghana	Motivation stems from job security, less stressful work, satisfaction from educating youth, and the opportunity to

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								farm for extra income in their home districts.
S8	Mwenda, Denis Beneka	Impact of monetary incentives on teacher retention and attraction to rural primary schools: case of rural allowance in salima district	Quantitative	Primary school teachers	250	2017	Malawi	Monetary incentives like rural allowances are effective in attracting and retaining teachers in rural primary schools.
S9	Chakandinakira, JOSEPH	The role of school-based teacher incentives to improve student achievement: Experiences from selected secondary schools in Manicaland Province, Zimbabwe	Qualitative	Teachers, school officials	37	2016	Zimbabwe	School-based teacher incentive systems were central to improving student achievement, with pass rates declining when incentives were banned.
S10	Eutimi, Bahati Bilantanye	Influence of financial motivation on teachers' job Satisfaction in secondary schools in kigoma district, Tanzania	Mixed method	Secondary school teachers	192	2018	Tanzania	Financial motivation is a significant factor influencing teachers' job satisfaction.
S11	Eliasu, Moro; Adjeiwaa, Kordei Godslove	Assessing teacher motivation and its outcome on performance in public basic schools in East Gonja District of Ghana	Quantitative	Public basic school teachers	100	2021	Ghana	Promotion, salary increment, cash rewards, and study leave with pay were key motivating factors for teacher performance.
S12	Nweneka, Chigonim Mercy	Motivation and teachers' job performance in public senior secondary schools in Rivers State	Quantitative	Public senior secondary school teachers	940	2019	Nigeria	Strong positive correlation between working conditions, promotion, and teaching performance. Recommends regular motivation through bonuses, allowances, salary increases, and promotion of hard-working teachers.
S13	Sampelolo, Rigel; Dominikus, Deny	TEACHER MOTIVATION IN TEACHING AT RURAL AREA	Mixed method	Teachers in a rural area	6	2022	Indonesia	Key motivations for native teachers include being natives of the area (sense of belonging), self-desire to teach, and enjoying the rural life condition and environment.
S14	Farooq Haidari, MM; Shukoor Gul, A; Tatyana Valentinovna, B; Elena Vladimirovna, K	Factors Affecting Teacher Motivation (A Case Study of Aqchah District School Teachers)	Quantitative	District school teachers	220	2023	Afghanistan	Teachers are primarily motivated by their relationships with colleagues.
S15	William, Aveline	Use of non-financial motivation as a strategy to improve teacher	Quantitative	Community secondary school teachers	80	2015	Tanzania	Focuses on the use and importance of non-financial

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		performance in community secondary schools in Tanzania: a case of Ilala municipality						incentives as a strategy for improving teacher performance.
S16	Mark, Agnes	Factors influencing teachers' motivation and job performance in Kibaha District, Tanzania	Mixed method	Teachers	39	2015	Tanzania	Suggests promotion, salary increment, extra payments, solving teacher problems promptly, and involving teachers in decision-making to enhance motivation and performance.
S17	Lukumay, Felista Losioki	Determinants of Teachers Motivation and Performance in Secondary Schools at Monduli District	Mixed method	Secondary school teachers	94	2021	Tanzania	Factors influencing motivation and performance include salary, work environment, recognition, competence, autonomy, and relatedness.
S18	Mrisho, Hassan; Matiku, Emmanuel; Kipilimba, Theobald	A Comparative Analysis on Factors Influencing Teacher Retention in Rural Public Primary Schools in Tanzania	Mixed method	Public primary school teachers	351	2023	Tanzania	Leadership influence, accessibility to social services, and promotion opportunities had higher positive effects on teacher retention rates.
S19	Roux, Ruth	Professional motivation and satisfaction of Mexican elementary school EFL teachers in a context of reform: A phenomenological study	Qualitative	Elementary school EFL teachers	5	2018	Mexico	Good collegial relationships are a primary source of professional motivation and satisfaction.
S20	Liu, An-na; Liu, Nian; Wang, An-quan	Why can't rural schools retain young teachers? An analysis of the professional development of rural school teachers in China	Qualitative	Young teachers in rural western China	19	2022	China	A lack of professional development opportunities is a key reason behind teacher shortages and an inability to retain young teachers in rural schools.
S21	Kyale, Stephen	Influence of Types of Parents' Associations Support on Teacher Motivation in Public Secondary Schools in Mwingi Central District, Kenya	Quantitative	Public secondary school teachers	137	2016	Kenya	Parent-Teacher Associations (PTAs) have a great impact on teacher motivation through various supports, including providing resources (labs, libraries) and facilitating educational tours and workshops.
S22	Ali, Ali Yassin Sheikh; Dahie, Abdulkadir Mohamud; Ali, Ali Abdulkadir	Teacher motivation and school performance, the mediating effect of job satisfaction: Survey from Secondary schools in Mogadishu	Quantitative	Secondary school teachers	80	2016	Somalia	Reward, autonomy, and social benefits are significant factors influencing teacher motivation and job satisfaction.

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S23	Yasmeen, Zareena; Mushtaq, Irem; Murad, Muzammila	Intrinsic and extrinsic motivation of teachers in special education secondary school: A qualitative study	Qualitative	Special education secondary school teachers	9	2019	Pakistan	Special education teachers are intrinsically motivated by feelings of enjoyment, honor, interest, and achievements derived from their work.
S24	Rao, Fei	Examination of the Relationship Between Principal Leadership Style and Teacher Self-efficacy and Its Effect on Student Success in Rural Chinese K- 12 Schools	Mixed method	Teachers in rural K-12 schools	15	2023	China	Examines the impact of transformational and transactional principal leadership styles on teacher self-efficacy and student success.
S25	Susan, L	Motivational Strategies for Teacher Retention in the Rural Junior High Schools in the Jirapa District of The Upper West Region of Ghana	Mixed method	Junior High School teachers	142	2021	Ghana	Effective strategies for teacher retention include enhancement of study leave/sponsorship programmes, improving teacher accommodation, and improving social amenities in rural areas.
S26	Gomba, Clifford	Teacher Retention in Zimbabwe: Love for Teaching or Incentives?	Qualitative	Experienced teachers (>10 years)	8	2017	Zimbabwe	Teacher retention is driven by a combination of altruistic, intrinsic, and extrinsic factors. Key influences are community culture/relationships, love for teaching/working with kids, making a difference, local school environment, "unhu" (humanity/respect), and lack of alternatives. Incentives provided false satisfaction but did not affect the core love for teaching.
S27	Zhai, Xiaoming	Becoming a teacher in rural areas: How curriculum influences government- contracted pre-service physics teachers' motivation	Mixed method	Government-contracted pre-service physics teachers	121	2019	China	The curriculum enhanced self- efficacy and helped pre-service teachers become aware of the value of serving rural communities, reshaping their motivation.
S28	Fungo, Boniface Mwamul	Assessment of Teachers' Motivation in Public Secondary Schools in Tanzania a case of Namtumbo District Council	Qualitative	Public secondary school teachers	60	2020	Tanzania	Job satisfaction, reward system, professional training, development, and working conditions significantly affect teacher motivation. Inadequate teaching resources demotivate.
S29	Wambasi, Maurice B	The influence of motivation strategies on teachers' job satisfaction in public	Quantitative	Public primary school teachers	302	2015	Kenya	Teachers were dissatisfied with income, benefits, working conditions, and promotion prospects. However, they were

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		primary schools in Bungoma East sub county, Kenya						satisfied with recognition from colleagues and parents.
S30	Salifu, Inusah	Teacher motivation and professional practice in the Ghana Education Service	Mixed method	Teachers in the Ghana Education Service	300	2014	Ghana	Selfless and internal factors were key motivators. Potential motivators include transforming the GES ethos, strong school-community collaboration, and societal recognition for the profession.
S31	Mwila, Prosperity M; Kulwa, Bijengo	Non-monetary Incentives: It's Role in Enhancing Job Performance among Secondary School Teachers in Kinondoni Municipality, Tanzania	Mixed method	Secondary school teachers	42	2022	Tanzania	Non-financial incentives (respect, fair treatment, good staff offices/homes, advancement, participation in decision-making) were lacking but are crucial for job effectiveness and performance.

Appendix B: Quality assessment criteria adapted from casP & MMat

Quality assessment criteria adapted from MMat & casP	Criteria used
are the qualitative data collection methods adequate to address the research question?	Was there a clear statement of the aims of the research?
are the findings adequately derived from the data?	Is the methodology appropriate?
is the interpretation of results sufficiently substantiated by data?	Was the research design appropriate to address the aim?
is there coherence between qualitative data sources, collection, analysis, and interpretation?	Was the recruitment strategy appropriate to the aims of the research?
	Has the relationship between the researcher and participants been adequately considered?
Are the sampling strategies relevant to address the research?	Have the ethical issues been taken into consideration?
Is the sample representative of the targeted population?	Was the data analysis sufficiently rigorous?
Are the measurements appropriate?	Is there a clear statement of findings?
Is the risk of nonresponse bias low?	How valuable is the research?
Are the statistical analyses appropriate to answer the research question?	
Is there an adequate rationale for using a mixed-method design to address the research question?	
Are the different components of the study effectively integrated to answer the research question?	

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Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	
Are the divergences and inconsistencies between qualitative and quantitative results adequately addressed?	
Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?	

Appendix C: Qualitative Assessment Table

Ref	Clear Aim	Methodological Appropriateness	Research Design	Recruitment Strategy	Data Collection	Researcher–Participant Relationship	Ethical Issues	Data Analysis	Findings	Value of Research	Row total (of 20)	5-point calc = (Row/20)*5	ROUND (1-dp)	Interpretation
S1	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S2	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S3	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S4	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S5	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S6	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S7	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S8	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S9	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S10	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S11	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S12	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate

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S13	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S14	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S15	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S16	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S17	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S18	Y	Y	Y	P	P	P	P	Y	Y	Y	16	4	4	Moderately-high
S19	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S20	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S21	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S22	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S23	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S24	Y	Y	Y	P	P	P	P	P	Y	Y	15	3.75	3.8	Moderately-high
S25	Y	Y	Y	P	P	P	P	P	Y	Y	15	3.75	3.8	Moderately-high
S26	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S27	Y	Y	Y	P	P	P	P	P	Y	Y	15	3.75	3.8	Moderately-high
S28	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S29	Y	P	P	P	P	P	P	P	Y	Y	13	3.25	3.3	Moderate
S30	Y	Y	Y	P	P	P	P	P	Y	Y	15	3.75	3.8	Moderately-high
S31	Y	Y	Y	P	P	P	P	P	Y	Y	15	3.75	3.8	Moderately-high
											Row totals	Sum of 5-point scores		

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											sum (all studies)			
Column Total	62	43	43	31	31	31	31	38	62	62	484	108		
											Average row total	Average 5-point score		Overall Interpretation
Average Measurement											14	3.5	3.5	Moderately-high

Explanation to Table

- 1) Y – (“yes”) = y (2) = 2 - points, P (“Partial”) = P (1) = 1 - points, N (“no”) = n (0) = 0-point,
- 2) 5 – Point Scale Calculation(s): total score for each study = number of criterion (10) * 2 points (each criteria) = 20 points (max.).
- 3) Convert points to 5 – point scale: [actual total score for each study (X)/20 points] * 5 =?? (Rounded).
- 4) Quality Assessment ratings 5 – high, 4 – Moderately - high, 3 – Moderate, 2 – Moderately-low, 1 – very low.
- 5) Row totals sum (all studies): 484
- 6) Average row total (per study): $484/31 = 14.0$
- 7) Sum of 5-point scores: 108.5
- 8) Average 5-point score: $108.5/31 \rightarrow 3.5$ (rounded 1-dp)
- 9) Overall Interpretation of Included Studies= 3.5 — Moderate-high

Appendix D: Coding Process

No	Key Findings	Code(s)	Category	Sub-theme	Theme
S1	Financial incentives (solar lamps, bicycles, motorbikes, district sponsorship schemes) are key for attracting and retaining teachers in rural areas.	Material benefits; rural retention incentives; mobility support	Material support and rural incentive schemes	Social activities and benefits	Non-Financial Motivational Incentives
S2	Teachers were most satisfied with financial bonuses (retention/professional allowance) and Parents and Teachers Association (PTA) motivational allowances.	Retention bonus; PTA allowance; financial motivation	Allowance-based motivation	Rural allowance and bonuses	Financial Motivational Incentives

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S3	Motivators include promotional posts, family bonds to rural areas, humane leadership, enriching experience, lower cost of living, employment opportunities for new recruits, support services, and financial incentives.	Promotion opportunity; supportive leadership; community connection	Leadership & relational motivation	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S4	While financial incentives play a role, motivation is also driven by connection to nature, lower living costs, accommodating school leadership, and community care.	Community care; leadership support; intrinsic connection	Environmental & social motivators	Social activities and benefits	Non-Financial Motivational Incentives
S5	Proposes optimizing teacher incentives through improved salary schemes and promotion training mechanisms for rural teachers.	Salary reform; promotion training	Institutional improvement strategies	Salary supplements	Financial Motivational Incentives
S6	Key motivational factors are salary, work conditions, incentives, medical allowance, security, recognition, advancement growth, pupil discipline, school policy, and status.	Salary & allowance; recognition; promotion; job status	Multi-factor motivation	Rural allowance and bonuses & School leadership style, recognition, autonomy	Financial & Non-Financial Motivational Incentives
S7	Motivation stems from job security, less stressful work, satisfaction from educating youth, and the opportunity to farm for extra income in their home districts.	Job security; intrinsic satisfaction; farming side-income	Stability and local integration	Social activities and benefits	Non-Financial Motivational Incentives
S8	Monetary incentives like rural allowances are effective in attracting and retaining teachers in rural primary schools.	Rural allowance; retention bonus	Economic retention motivator	Rural allowance and bonuses	Financial Motivational Incentives
S9	School-based teacher incentive systems were central to improving student achievement, with pass rates declining when incentives were banned.	Performance incentive systems	Institutional performance link	Cash rewards	Financial Motivational Incentives
S10	Financial motivation is a significant factor influencing teachers' job satisfaction.	Salary & allowance	Monetary motivation	Salary supplements	Financial Motivational Incentives

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S11	Promotion, salary increment, cash rewards, and study leave with pay were key motivating factors for teacher performance.	Salary raise; cash incentive; study leave	Pay and professional opportunity	Salary supplements	Financial Motivational Incentives
S12	Strong positive correlation between working conditions, promotion, and teaching performance. Recommends regular motivation through bonuses, allowances, salary increases, and promotion of hard-working teachers.	Promotion; allowance; recognition	Reward and career growth	Salary supplements & School leadership style, recognition, autonomy	Financial & Non-Financial Motivational Incentives
S13	Key motivations for native teachers include being natives of the area (sense of belonging), self-desire to teach, and enjoying the rural life condition and environment.	Sense of belonging; intrinsic drive; rural enjoyment	Place-based intrinsic motivation	Social activities and benefits	Non-Financial Motivational Incentives
S14	Teachers are primarily motivated by their relationships with colleagues.	Peer collaboration; team support	Collegial relationship	Good collegial relationships and relatedness	Non-Financial Motivational Incentives
S15	Focuses on the use and importance of non-financial incentives as a strategy for improving teacher performance.	Non-financial rewards; recognition; autonomy	Intangible motivation	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S16	Suggests promotion, salary increment, extra payments, solving teacher problems promptly, and involving teachers in decision-making to enhance motivation and performance.	Participation; promotion; salary increase	Participatory motivation	Involvement in decision-making	Non-Financial Motivational Incentives
S17	Factors influencing motivation and performance include salary, work environment, recognition, competence, autonomy, and relatedness.	Recognition; autonomy; competence	Integrated motivational framework	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S18	Leadership influence, accessibility to social services, and promotion opportunities had higher positive effects on teacher retention rates.	Leadership influence; promotion access; social support	Leadership-driven retention	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S19	Good collegial relationships are a primary source of professional motivation and satisfaction.	Team collaboration; peer motivation	Professional collegiality	Good collegial relationships and relatedness	Non-Financial Motivational Incentives

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S20	A lack of professional development opportunities is a key reason behind teacher shortages and an inability to retain young teachers in rural schools.	Lack of training; missing growth opportunities	Professional stagnation	Professional development	Non-Financial Motivational Incentives
S21	Parent-Teacher Associations (PTAs) have a great impact on teacher motivation through various supports, including providing resources (labs, libraries) and facilitating educational tours and workshops.	PTA support; community engagement	Parental involvement	Parent-teacher associations	Non-Financial Motivational Incentives
S22	Reward, autonomy, and social benefits are significant factors influencing teacher motivation and job satisfaction.	Reward system; autonomy; social recognition	Combined intrinsic-extrinsic factors	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S23	Special education teachers are intrinsically motivated by feelings of enjoyment, honor, interest, and achievements derived from their work.	Intrinsic enjoyment; sense of purpose	Inner satisfaction	Social activities and benefits	Non-Financial Motivational Incentives
S24	Examines the impact of transformational and transactional principal leadership styles on teacher self-efficacy and student success.	Transformational leadership; supervision	Leadership style and efficacy	School leadership style, recognition, autonomy	Non-Financial Motivational Incentives
S25	Effective strategies for teacher retention include enhancement of study leave/sponsorship programmes, improving teacher accommodation, and improving social amenities in rural areas.	Accommodation; study leave; amenities	Welfare and living condition support	Social activities and benefits	Non-Financial Motivational Incentives
S26	Teacher retention is driven by a combination of altruistic, intrinsic, and extrinsic factors. Key influences are community culture/relationships, love for teaching/working with kids, making a difference, local school environment, "unhu" (humanity/respect), and lack of alternatives. Incentives provided false satisfaction but did not affect the core love for teaching.	Community culture; intrinsic love for teaching; "unhu" values	Moral and relational motivation	Social activities and benefits	Non-Financial Motivational Incentives
S27	The curriculum enhanced self-efficacy and helped pre-service teachers become aware of the value of	Self-efficacy; rural value awareness	Experiential learning motivation	Professional development	Non-Financial Motivational Incentives

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	serving rural communities, reshaping their motivation.				
S28	Job satisfaction, reward system, professional training, development, and working conditions significantly affect teacher motivation. Inadequate teaching resources demotivate.	Professional training; reward system; resources	Capacity building & environment	Professional development	Non-Financial Motivational Incentives
S29	Teachers were dissatisfied with income, benefits, working conditions, and promotion prospects. However, they were satisfied with recognition from colleagues and parents.	Low-income dissatisfaction; recognition satisfaction	Recognition and collegial appreciation	Good collegial relationships and relatedness	Non-Financial Motivational Incentives
S30	Selfless and internal factors were key motivators. Potential motivators include transforming the GES ethos, strong school-community collaboration, and societal recognition for the profession.	Selfless service; collaboration; societal respect	Moral-ethical motivation	Parent-teacher associations	Non-Financial Motivational Incentives
S31	Non-financial incentives (respect, fair treatment, good staff offices/homes, advancement, participation in decision-making) were lacking but are crucial for job effectiveness and performance.	Respect; participation; fair treatment	Equity and fairness motivation	Involvement in decision-making	Non-Financial Motivational Incentives