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Bridging the Gulf: Addressing Systemic Disparities and the Rural-Urban Divide in Zambia's Foundational Literacy and Numeracy Crisis

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Abstract: Zambia faces a profound foundational learning crisis characterised by stark disparities between urban and rural educational outcomes. Despite progressive policy frameworks including the 2023 Zambia Education Curriculum Framework (ZECF) and the Free Education Policy introduced in 2022, learning poverty remains entrenched, with rural learners disproportionately affected. This article draws on recent parliamentary inquiry evidence, national assessment data, and peer-reviewed research to examine the systemic failures perpetuating the urban-rural divide in foundational literacy and numeracy (FLN). Analysis reveals that rural schools suffer from acute teacher shortages, inadequate infrastructure including housing, sanitation, and connectivity chronic teaching and learning material deficits, and insufficient hardship allowances that collectively undermine instructional quality. The article argues that addressing these disparities requires coordinated, equity-focused interventions: revised teacher deployment and retention policies with meaningful rural incentives; guaranteed timely procurement and distribution of quality learning materials; strategic infrastructure investment; strengthened school leadership and monitoring systems; and expanded access to quality Early Childhood Education (ECE). Without such targeted measures, Zambia's constitutional commitment to equitable education and its Vision 2030 aspirations will remain unfulfilled, condemning generations of rural children to diminished life opportunities.

Keywords: *Rural-Urban Divide, Foundational Literacy, Foundational Numeracy, Educational Equity, Teacher Deployment, Zambia, Learning Poverty.*

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I. INTRODUCTION

The rural-urban divide in educational outcomes represents one of the most persistent and damaging features of Zambia's education landscape. Recent evidence paints a sobering picture: a parliamentary inquiry initiated in January 2026 by the Zambian National Assembly's Committee on Education, Science, and Technology revealed that only 14% of Grade 4 students can perform basic math tasks including number recognition and writing, while merely 12.7% can read and write at expected levels (International Parliamentary Network for Education [IPNEd], 2026a). These national averages mask far deeper disparities, with rural learners consistently underperforming their urban counterparts by substantial margins (Gondwe et al., 2026; Ministry of Education [MoE], 2024).

The significance of this disparity extends beyond immediate educational outcomes. Foundational literacy and numeracy are the essential building blocks upon which all subsequent learning depends. Learning gaps established in early grades persist through secondary and tertiary education, undermining national investments in human capital development and perpetuating intergenerational cycles of poverty (World Bank, 2018; UNESCO, 2020). As Honourable Harry Kamboni MP, Chair of the Parliamentary Committee on Education, Science, and Technology, observed following a visit to a rural primary school: "I saw an 8-year-old student struggling to write the number four in his notebook. Watching from a distance, it was clear that he had difficulty holding his pencil and writing the correct form" (IPNEd, 2026b). Such observations, multiplied across thousands of rural classrooms, constitute a national emergency requiring urgent, coordinated, and equity-focused intervention.

This article examines the systemic failures perpetuating the urban-rural divide in foundational literacy and numeracy (FLN) in Zambia and proposes strategic interventions to address these disparities. The article draws on a recent mixed-

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method study conducted by Kwame Nkrumah University, which surveyed 134 ECE and primary school teachers across all ten provinces of Zambia, supplemented by evidence from the 2026 parliamentary inquiry, national assessment data from the Examinations Council of Zambia (ECZ), and regional comparisons from the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) assessments (Gondwe et al., 2026; Hungi et al., 2010; Takuya et al., 2019).

➢ *Background*

Zambia's commitment to equitable education is firmly embedded in national policy frameworks spanning nearly five decades. The 1977 Educational Reforms established the foundation for universal basic education, while the 1992 *Focus on Learning* policy articulated strategies for educational development (MoE, 1992). The 1996 *Educating Our Future* policy established foundational principles of education as a fundamental right and recognised the state's obligation to ensure equitable access to quality learning opportunities (MoE, 1996). This was reinforced by Vision 2030, which articulates Zambia's aspiration to become "a prosperous middle-income nation" and identifies education as a key driver of national development (Ministry of National Development Planning, 2006).

The Education for All (EFA) goals, adopted in Jomtien in 1992 and reaffirmed in Dakar in 2000, further strengthened Zambia's commitment to universal basic education (MoE, 1992; UNESCO, 2015). These international commitments align with Sustainable Development Goal 4 (SDG 4), which explicitly targets inclusive and equitable quality education and promotes lifelong learning opportunities for all. Zambia's endorsement of SDG 4 reflects recognition that educational equity is not merely a moral imperative but a precondition for sustainable development (UNESCO, 2015; World Bank, 2018).

A significant milestone in Zambia's pursuit of educational equity was the introduction of the Free Education Policy in 2022. This policy eliminated tuition and other compulsory fees for primary and secondary education, removing a major barrier to school access, particularly for poor and rural households (MoE, 2022; UNESCO, 2022). The policy's impact was immediate and substantial: more than two million students returned to the classroom, many of whom had been out of school for years (IPNEd, 2026b; Gondwe et al., 2026).

However, the rapid increase in enrolment created new challenges. As Honourable Kamboni acknowledged: "After we introduced the free education policy in 2022, more than 2 million students returned to the classroom. Many were behind for their age, and some hadn't been in school for years. Catch-Up helps to remedy that situation and helps children to literally catch up" (IPNEd, 2026b). The influx of learners, many with significant learning gaps, placed unprecedented strain on already overstretched rural schools, exacerbating existing disparities in teacher workload, classroom capacity, and resource availability (Gondwe et al., 2026; Kalaba, 2026).

The 2023 Zambia Education Curriculum Framework (ZECF) represents the most recent articulation of national education policy. The ZECF emphasises competency-based education (CBE), learner-centred pedagogy, and the use of local languages in early-grade instruction as a foundation for strong literacy and numeracy development (Curriculum Development Centre [CDC], 2023). Of particular relevance to the rural-urban divide, the ZECF commits to "equitable distribution of resources" and "inclusive education" that reaches learners regardless of geographic location (CDC, 2023, p. 45). The framework acknowledges that effective foundational learning requires adequate infrastructure, appropriately trained teachers, and sufficient teaching and learning materials all areas where rural schools face acute deficits (Gondwe et al., 2026; MoE, 2024).

➢ *Aim*

This article aims to comprehensively analyse the systemic disparities between rural and urban schools in Zambia that perpetuate the foundational literacy and numeracy crisis, and to propose evidence-based strategic interventions for bridging this divide.

➢ *Objectives*

The specific objectives of this article are to:

- Examine the policy framework and commitments that have sought to address educational equity in Zambia.
- Present empirical evidence of the rural-urban divide in foundational literacy and numeracy outcomes.
- Analyse the systemic drivers of disparity across four domains: teacher deployment and support, teaching and learning materials, infrastructure and basic amenities, and school leadership and monitoring.
- Propose strategic interventions to address the rural-urban divide.
- Provide recommendations for policy reform and future research.

II. LITERATURE REVIEW

➢ *Foundational Learning and National Development*

Foundational learning is the acquisition of basic literacy, numeracy, cognitive, socio-emotional, physical, and civic competencies in early childhood and lower primary education (MoE, 1996; CDC, 2023). It is a critical determinant of learning outcomes across the education system. Evidence from Zambia and global education systems shows that learning gaps established in early grades persist into secondary and tertiary education, undermining national investments in education quality (World Bank, 2018; UNESCO, 2020).

In Zambia, foundational learning refers to the essential competencies learners must acquire in Early Childhood Education (ECE) and Grades 1–3 to enable meaningful participation in subsequent learning and national development (MoE, 1996; 2013). This definition aligns with the policy position of the Ministry of Education, which recognises early grade learning as the bedrock of quality education outcomes (MoE, 1996; 2013). Foundational

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learning is therefore a system-level priority, not a standalone programme.

➢ *The Rural-Urban Divide in Educational Outcomes*

The rural-urban divide in educational outcomes is a well-documented phenomenon across Sub-Saharan Africa. Research consistently shows that rural learners are disadvantaged across multiple dimensions: access to schooling, quality of instruction, availability of learning materials, and learning outcomes (UNESCO, 2020; World Bank, 2018). In Zambia, these disparities are particularly pronounced due to the country's geography, population distribution, and historical patterns of investment (Gondwe et al., 2026; MoE, 2024).

UNICEF's campaign on ending learning poverty in Zambia underscores these inequities, pointing out that rural learners are disproportionately affected by poor foundational skills (UNICEF, 2019). The Global Education Futures Readiness Index (GEFRI) assessment confirms that Zambia ranks in the 16th percentile globally for Infrastructure and the 25th percentile for Human Capital, with these deficits most acute in rural areas (GEFRI, 2025).

➢ *Teacher Deployment and Rural Challenges*

The uneven distribution of qualified teachers represents a significant driver of the rural-urban learning gap. Research by the Ministry of Education indicates that teacher shortages are most severe in rural and remote areas, where challenging living conditions, inadequate housing, and lack of professional support discourage teachers from accepting or remaining in posts (MoE, 2024; Kalaba, 2026).

Citizens First leader Harry Kalaba has highlighted the plight of teachers deployed to rural areas: "Many teachers are deployed far from their families, sometimes separated from spouses for years, with no relocation support and no salary adjustment. Others are sent to rural areas without adequate housing, transport, or incentives, despite the higher cost and hardship of serving in those communities" (Kalaba, 2026, para. 8). The rural hardship allowance, intended to compensate teachers for the additional challenges of rural service, is widely viewed as insufficient to offset the real costs and difficulties of rural posting (Gondwe et al., 2026; Kalaba, 2026).

➢ *Teaching and Learning Materials*

Chronic shortages and delays in teaching and learning materials disproportionately affect rural schools. The Zambia Education Curriculum Framework underscores the provision of quality, relevant, and inclusive learning materials, particularly for foundational literacy and numeracy (CDC, 2023). However, research indicates a disconnect between policy intent and implementation, especially regarding curriculum-aligned instructional materials and equitable distribution mechanisms (Gondwe et al., 2026; Room to Read, 2026).

Room to Read's recent Memorandum of Understanding with Zambia's Ministry of Education reflects the priority attached to learning materials. The agreement includes commitments to "developing and distributing high-quality, local-language storybooks and decodable readers" and "establishing and revitalising classroom libraries" (Room to Read, 2026, para. 4). The organisation's feasibility study found "a shortage of decodable readers and phonics-based instructional materials" and that "access to classroom libraries and local-language materials is uneven" findings that shaped its re-engagement strategy (Room to Read, 2026, para. 5).

➢ *Infrastructure and Basic Amenities*

Infrastructure deficits in rural schools represent a fundamental barrier to quality education. The GEFRI assessment notes that "limited electricity or internet coverage still constrains classrooms, preventing large-scale digital instruction" and that "literacy or tertiary enrollment gaps thin the talent pipeline and limit the country's capacity to develop future-ready skills" (GEFRI, 2025, p. 12). These constraints are most acute in rural areas, where infrastructure deficits are most severe and access to qualified teachers most limited (Gondwe et al., 2026; Kalaba, 2026).

Beyond technology, rural schools face basic infrastructure deficits that undermine teaching and learning. Inadequate teacher housing discourages teachers from accepting or remaining in rural posts (Kalaba, 2026). Poor sanitation facilities affect learner attendance, particularly for adolescent girls (UNICEF, 2019). Lack of clean water affects both health and the school's ability to function as a community resource (Gondwe et al., 2026; MoE, 2024).

➢ *School Leadership and Monitoring*

Effective school leadership and robust monitoring systems are essential for translating policy into classroom practice, yet these are often weakest in rural schools. The School-Based Continuing Professional Development (SBCPD) programme, part of the SPRINT approach, has sought to strengthen school leadership and peer learning through Teacher Group Meetings (TGMs) (Open University, 2026). The programme emphasises "developing participatory TGMs" where teachers "work actively towards a particular objective: to learn something that will be useful for everyone" (Open University, 2026, Section 1.2).

However, the effectiveness of TGMs depends on skilled facilitation, adequate resources, and regular attendance all more challenging in rural contexts where schools are isolated, teachers are few, and travel is difficult (Gondwe et al., 2026; Open University, 2026). The parliamentary inquiry's focus on monitoring systems reflects recognition that accountability mechanisms are essential for ensuring equitable resource distribution and quality instruction (IPNEd, 2026a).

➢ *Early Childhood Education (ECE) Access*

The foundations of literacy and numeracy are laid before children enter primary school, yet access to quality Early Childhood Education (ECE) remains highly unequal. Urban areas have a concentration of ECE centres, both public and private, while rural communities often lack any formal ECE provision (Gondwe et al., 2026; UNICEF, 2019). Children who begin Grade 1 without prior exposure to

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structured learning environments, basic literacy and numeracy concepts, and school readiness skills start at a substantial disadvantage that compounds over time (UNESCO, 2020; UNICEF, 2019).

➢ *Theoretical Framework: Equity in Education*

This article is grounded in the theoretical framework of educational equity, which distinguishes between equality (providing the same resources to all) and equity (providing resources according to need) (UNESCO, 2020; World Bank, 2018). In the Zambian context, achieving equity requires targeted interventions that address the specific disadvantages faced by rural schools and learners, rather than uniform resource distribution that perpetuates existing disparities.

The capability approach, developed by Amartya Sen and applied to education by Martha Nussbaum, provides additional theoretical grounding. This approach emphasises that education should expand learners' capabilities their freedom to achieve wellbeing and participate fully in society (UNESCO, 2020). Rural learners' capabilities are constrained not only by lack of access to schooling but by the poor quality of education they receive, which fails to develop the foundational skills necessary for future learning and life opportunities.

III. METHODOLOGY

➢ *Research Design*

This study employed a mixed-method research design, combining quantitative survey data with qualitative insights from open-ended questions. The descriptive and analytical research design was chosen to describe current trends in the delivery of literacy and numeracy in primary schools and to analyse the gap between policy intent and implementation outcomes (Gondwe et al., 2026).

➢ *Sample and Sampling Procedure*

The survey was conducted by Kwame Nkrumah University among ECE and primary school teachers across all ten provinces of Zambia. A total of 134 respondents participated in the study, including classroom teachers, head teachers, and school administrators.

Table 1 Provincial Distribution of Respondents

Province	Number of Respondents	Percentage
Central	24	17.9%
Eastern	21	15.7%
Lusaka	18	13.4%
Northern	16	11.9%
Copperbelt	14	10.4%
Southern	12	9.0%
Luapula	10	7.5%
Western	8	6.0%
Muchinga	6	4.5%
North-Western	5	3.7%
Total	134	100%

Source: Gondwe et al. (2026)

➢ *Data Collection Instruments*

Data were collected using a semi-structured questionnaire, which generated measurable evidence on trends, perceptions, and implementation gaps. The questionnaire included both closed-ended questions (using Likert scales) and open-ended questions that allowed respondents to elaborate on their experiences and recommendations. Desk reviews of policy documents, assessment reports, and programme evaluations provided contextual insights (Gondwe et al., 2026).

➢ *Data Analysis*

Quantitative data were analysed using descriptive statistics, including frequencies, percentages, and cross-tabulations. Results are presented using statistical tables and charts. Qualitative data from open-ended questions were analysed thematically, with key themes identified and illustrated using representative quotations (Gondwe et al., 2026).

➢ *Ethical Considerations*

The study adhered to ethical research principles, including informed consent, confidentiality, and voluntary participation. Respondents were informed of the purpose of the study and their right to withdraw at any time. Data were anonymised to protect respondent identities (Gondwe et al., 2026).

➢ *Limitations*

The study has several limitations. First, the sample size of 134 respondents, while representative across provinces, may not capture the full diversity of experiences within each province. Second, the study relied on teacher perceptions rather than direct observation or learner assessment data. Third, the cross-sectional design provides a snapshot at a single point in time rather than tracking changes over time (Gondwe et al., 2026).

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IV. FINDINGS

➢ *Current Levels of Foundational Literacy and Numeracy*

Table 2 Learner Performance in Foundational Literacy (N=134 schools)

Literacy Indicator	Percentage of Learners Demonstrating Skill
Adequate letter recognition skills	71%
Sufficient word decoding ability	68%
Good listening comprehension during lessons	66%
Write simple, meaningful sentences	56%
Correct spelling	51%
Good reading comprehension skills	50%
Fluently reading in local language	50%
Transition successfully to English literacy	33%

Source: Gondwe et al. (2026)

The findings reveal that 68% of learners demonstrated sufficient word decoding ability, showing progress in connecting written symbols to spoken language. Meanwhile, 71% achieved adequate letter recognition skills, indicating a strong foundation in early literacy. Together, these results suggest that most learners are developing essential reading competencies, though there remains room for improvement in decoding accuracy (Gondwe et al., 2026).

The results show that half of the learners (50%) can read fluently in their local language, reflecting moderate progress in foundational literacy. However, only 33% have successfully transitioned to English literacy, highlighting a significant gap between local language proficiency and English reading skills. This disparity suggests that while mother-tongue instruction supports early reading, additional interventions are needed to strengthen English literacy outcomes (Gondwe et al., 2026).

Table 3 Learner Performance in Foundational Numeracy (N=134 schools)

Numeracy Indicator	Percentage of Learners Demonstrating Skill
Strong number recognition	73%
Addition and subtraction accurately	65%
Count backward and forward confidently	62%
Understand basic shapes and measurements	57%
Understanding place value concepts	54%
Can tell time correctly	44%
Solve simple word problems	44%

Source: Gondwe et al. (2026)

Seventy-three percent of learners demonstrated strong number recognition skills, reflecting a solid grasp of basic numeracy foundations. In addition, 62% were able to count both backward and forward confidently, indicating progress in sequencing and operational fluency. These results highlight that while number recognition is a relative strength, counting skills still require further reinforcement (Gondwe et al., 2026).

➢ *Urban-Rural Disparities in Literacy and Numeracy Outcomes*

Table 4 Teacher Perceptions of Urban-Rural Performance Gap (N=134 teachers)

Statement	Percentage Agreeing
Urban schools perform better than rural schools in literacy	86%
Urban schools perform better than rural schools in numeracy	71%

Source: Gondwe et al. (2026)

Figure 4 shows that urban schools perform better than rural schools, with 86% of teachers reporting stronger outcomes in literacy and 71% in numeracy. These results highlight a clear urban–rural performance gap, reflecting disparities in resource availability, teacher support, and instructional conditions. Compared with Zambia's national averages, where urban literacy performance is typically around 80–85% and numeracy closer to 65–70%, these figures are slightly higher. At the SADC regional level, averages are often around 75–80% for literacy and 60–65% for numeracy, meaning urban schools are performing well above regional benchmarks while rural schools lag significantly behind (Gondwe et al., 2026).

➢ *Teacher Training and Support*

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Table 5 Teacher Training in Foundational Literacy (N=134 teachers)

Training Indicator	Percentage Trained
Trained adequately to teach foundational literacy	78%
Trained in formative assessment for literacy	78%
Trained to handle learners with different abilities in literacy	83%
Phonemic awareness for local languages	70%
Trained in using local stories for literacy instruction	73%
Prepared to support transition from local to English	69%
Prepared to handle large classes (literacy)	68%

Source: Gondwe et al. (2026)

The results show that 78% of teachers reported being adequately trained to teach foundation literacy, while 70% demonstrated competence in phonemic awareness for local languages. These figures are stronger than Zambia's national averages, where foundation literacy training coverage is typically around 65–70% and phonemic awareness closer to 60–65%, reflecting gaps in teacher preparation. Compared with SADC regional averages, which often fall below 65% for foundation literacy training and around 55–60% for phonemic awareness, these results are notably higher, suggesting stronger capacity in early literacy instruction than both national and regional benchmarks (Gondwe et al., 2026).

Table 6 Teacher Training in Foundational Numeracy (N=134 teachers)

Training Indicator	Percentage Trained
Trained to teach foundational numeracy	72%
Using locally available materials	80%
Teach numeracy using real-life contexts	83%
Trained in number talks strategies	74%
Trained in formative assessment for numeracy	77%
Prepared to handle large classes (numeracy)	70%
Prepared to support learners with different abilities in numeracy	78%

Source: Gondwe et al. (2026)

Table 6 shows that 72% of teachers are prepared to teach foundational numeracy, while 80% are trained in using locally available materials for numeracy instruction. These results indicate strong readiness in both pedagogical skills and resourcefulness, with particular strength in adapting local materials to enhance learning. Compared with Zambia's national averages, where preparedness for foundational numeracy is typically around 65–70% and training in local materials closer to 65–70%, these figures are clearly higher. At the SADC regional level, averages are often below 65% for foundational numeracy preparedness and around 60–65% for local materials training, meaning teachers are performing well above regional benchmarks (Gondwe et al., 2026).

- *Ongoing Mentoring Support*

Table 7 Mentoring and Professional Development Support (N=134 teachers)

Support Indicator	Percentage Reporting Adequate Support
Receives adequate mentoring/support for literacy instruction	56%
Receives adequate mentoring/support for numeracy instruction	56%
School leadership provides instructional support	67%
In-service professional development addresses instructional needs	73%
Confidence in ability to teach FLN effectively	75%

Source: Gondwe et al. (2026)

Table 7 shows that 56% of teachers reported receiving adequate mentoring support for literacy instruction, and the same proportion (56%) for numeracy instruction. These results indicate that just over half of teachers benefit from mentoring, suggesting moderate but insufficient coverage. Compared with Zambia's national averages, where mentoring support is typically around 50–55%, the figures are slightly stronger. At the SADC regional level, averages are often closer to 45–50%, meaning teachers are performing above regional benchmarks but still below the desired threshold for universal mentoring coverage (Gondwe et al., 2026).

- *Availability of Teaching and Learning Materials*

Table 8 Availability of Teaching and Learning Materials (N=134 schools)

Material Type	Percentage Reporting Availability
Approved literacy textbooks	44%
Approved numeracy textbooks	47%
Supplementary readers in local languages	38%

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Locally made numeracy teaching aids	75%
Charts and posters	75%
Technology-related aids	20%
Quality and culturally relevant numeracy materials	49%
Quality and culturally relevant literacy materials	47%

Source: Gondwe et al. (2026)

The results show that 44% of schools reported availability of approved literacy textbooks, while 47% reported availability of approved numeracy textbooks. These figures highlight a significant resource gap, as less than half of learners have access to essential instructional materials. Compared with Zambia's national averages, where availability of approved literacy textbooks is typically around 50–55% and numeracy textbooks closer to 55–60%, the figures are slightly lower. At the SADC regional level, averages are often around 45–50% for literacy textbooks and 50–55% for numeracy textbooks, meaning schools are performing at or just below regional benchmarks (Gondwe et al., 2026).

Further, the results show that 38% of schools reported availability of supplementary readers in local languages, while 75% reported availability of locally made numeracy teaching aids. These results highlight a clear imbalance: while resourcefulness in creating numeracy aids is strong, access to supplementary literacy materials in local languages remains limited. Compared with Zambia's national averages, where availability of local language readers is typically around 40–45% and locally made numeracy aids closer to 65–70%, the figures are slightly lower for literacy but notably higher for numeracy (Gondwe et al., 2026).

➢ *Qualitative Findings: Teacher Perspectives on Rural Challenges*

The open-ended questions in the survey revealed rich qualitative data on the challenges facing rural schools. Several key themes emerged from teacher responses.

- *Theme 1: Inadequate Teacher Housing and Basic Amenities*

Teachers consistently highlighted the lack of adequate housing as a major deterrent to accepting and remaining in rural posts. One teacher from Northern Province stated: "*Teachers posted to our school are given houses that are in poor condition leaking roofs, no water, no electricity. Some choose to leave within months. We are constantly understaffed because no one wants to stay"* (Gondwe et al., 2026).

Another teacher from Luapula Province commented: *"The school has no staff housing at all. Teachers must rent in the nearest town, which is 20 kilometres away. They travel daily on poor roads. By the time they arrive at school, they are already exhausted"* (Gondwe et al., 2026).

- *Theme 2: Severe Shortages of Teaching and Learning Materials*

Rural teachers reported that materials either do not arrive or arrive late, and in insufficient quantities. A teacher from Western Province noted: *"We received textbooks for only half of our learners. The rest must share, but sharing doesn't work when children need to practice reading at home. Many of my Grade 2 learners have never owned a book"* (Gondwe et al., 2026).

A head teacher from Muchinga Province added: *"We submitted our material requisition in January. It is now June, and we have received nothing. I use my own money to buy chalk and paper. How can children learn without materials?"* (Gondwe et al., 2026).

- *Theme 3: Logistical Challenges Due to Poor Infrastructure*

Teachers emphasised that poor roads and lack of transport make it difficult to access support services and deliver materials. A teacher from Eastern Province stated: *"During the rainy season, our school is cut off completely. No vehicle can reach us. Even if materials are available at the district office, we cannot collect them"* (Gondwe et al., 2026).

Another teacher from North-Western Province commented: *"The District Resource Centre is 150 kilometres away. We have no vehicle. We have not received any mentoring visit this entire year"* (Gondwe et al., 2026).

- *Theme 4: Insufficient Rural Hardship Allowance*

Teachers expressed strong views that the current rural hardship allowance is inadequate and does not reflect the true costs and challenges of rural service. A teacher from Southern Province stated: *"The hardship allowance is 300 kwacha per month. That doesn't even cover my transport costs to visit my family in town. It is an insult, not an incentive"* (Gondwe et al., 2026).

Another teacher from Central Province commented: *"We are expected to work in difficult conditions, far from our families, with no amenities, and the government gives us 300 kwacha. Meanwhile, teachers in town schools have electricity, water, good housing, and access to everything. Is it fair?"* (Gondwe et al., 2026).

V. DISCUSSION

➢ *The Persistence of the Rural-Urban Divide*

The findings of this study confirm that the rural-urban divide in foundational literacy and numeracy outcomes remains a persistent and damaging feature of Zambia's education landscape. With 86% of teachers reporting urban literacy advantage and 71% reporting urban numeracy advantage (Gondwe et al., 2026), the disparity is both widely recognised and deeply entrenched. These findings align with national assessment data showing that urban provinces

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consistently outperform rural provinces (MoE, 2024; ECZ, 2014) and with regional comparisons placing Zambia at the bottom of SACMEQ rankings (Hungi et al., 2010; Takuya et al., 2019).

The persistence of this divide despite decades of policy commitments to educational equity (MoE, 1996; 2013; 2023) points to fundamental weaknesses in implementation rather than policy design. As the ZECF itself acknowledges, there is often "a disconnect between policy intent and implementation, especially regarding CBC instructional materials and equitable distribution mechanisms" (CDC, 2023, p. 52). This implementation gap must be addressed if Zambia is to make progress toward SDG 4 and Vision 2030 targets.

- *Teacher Deployment as a Critical Lever*

The findings on teacher training reveal a paradox: while 78% of teachers report being adequately trained in foundational literacy and 72% in foundational numeracy figures that exceed national and regional averages (Gondwe et al., 2026) these well-trained teachers are not equitably distributed. Rural schools continue to face acute teacher shortages, high turnover, and difficulty attracting qualified teachers (Kalaba, 2026; MoE, 2024).

This paradox underscores that training teachers is insufficient if they cannot be retained in the schools where they are most needed. The qualitative findings on inadequate housing, poor working conditions, and insufficient hardship allowances (Gondwe et al., 2026; Kalaba, 2026) suggest that systemic factors, not individual preferences, drive teacher attrition from rural schools. As Kalaba (2026) argues, deploying teachers to rural areas without adequate support is "*a recipe for burnout and attrition, directly undermining the quality of instruction at the most critical foundational level*" (para. 14).

- *The Material Gap and Its Consequences*

The findings on teaching and learning materials reveal a significant resource gap, with approved textbook availability at only 44% for literacy and 47% for numeracy, and supplementary readers in local languages at just 38% (Gondwe et al., 2026). These shortages are more acute in rural schools, where logistical challenges and weak infrastructure result in delayed or incomplete deliveries.

The consequences of this material gap are profound. Without adequate textbooks and readers, teachers cannot implement the curriculum effectively. Without local language materials, they cannot implement the mother-tongue instruction policy that the ZECF emphasises as foundational for early literacy (CDC, 2023). The finding that only 33% of learners successfully transition to English literacy (Gondwe et al., 2026) may reflect, in part, the lack of local language reading materials that would build the reading fluency and comprehension that support transfer to English.

The strong availability of locally made numeracy teaching aids (75%) and charts/posters (75%) reflects teacher resourcefulness and creativity (Gondwe et al., 2026). However, this resourcefulness, while commendable, should not substitute for systematic provision of quality published materials. Teachers should be supported in creating low-cost aids, but this must complement, not replace, adequate material provision by the system.

- *Infrastructure as a Foundation for Quality*

The infrastructure deficits documented in this study, inadequate teacher housing, poor sanitation, lack of clean water, limited electricity, and internet connectivity, represent fundamental barriers to quality education in rural areas (Gondwe et al., 2026; GEFRI, 2025). These deficits affect not only teaching and learning conditions but also teacher motivation and retention.

The GEFRI assessment's finding that Zambia ranks in the 16th percentile globally for Infrastructure (GEFRI, 2025) underscores the scale of the challenge. While full electrification of all schools may take time, interim solutions such as solar power can provide immediate benefits. Similarly, investment in teacher housing must be prioritised as a teacher retention strategy, not merely as infrastructure development. As Kalaba (2026) argues, "*Investing in teachers is not a charity case, it's securing our children's education*" (para. 13).

- *The Mentoring Gap*

The finding that only 56% of teachers receive adequate mentoring support for literacy and numeracy instruction (Gondwe et al., 2026) reveals a critical gap in the teacher support system. While pre-service training coverage is relatively strong, ongoing professional development and instructional support are insufficient to help teachers refine their practice, adapt to new curriculum requirements, and address classroom challenges.

This mentoring gap is likely more severe in rural schools, where isolation, lack of transport, and limited access to district support services compound the problem. The SBCPD programme's emphasis on school-based professional learning (Open University, 2026) offers a promising model, but its effectiveness depends on skilled facilitation, adequate resources, and regular attendance conditions that are often absent in rural contexts.

- *Early Childhood Education as a Foundation*

The finding that access to quality ECE is highly unequal, with rural communities often lacking any formal ECE provision (Gondwe et al., 2026; UNICEF, 2019), highlights a critical missed opportunity. Children who begin Grade 1 without prior exposure to structured learning environments start at a substantial disadvantage that compounds over time (UNESCO, 2020; World Bank, 2018).

Expanding access to quality ECE in rural areas should therefore be a priority intervention. This is not only a matter of equity but also of efficiency: early intervention is more effective and less costly than remediation later (UNICEF, 2019). The ZECF's emphasis on foundational learning as a system-level priority (CDC, 2023) should be operationalised through targeted investment in rural ECE.

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➢ *Alignment with Regional and Global Patterns*

The rural-urban divide documented in this study aligns with patterns observed across Sub-Saharan Africa and globally. UNESCO's Global Education Monitoring Report consistently finds that rural learners are disadvantaged across multiple dimensions, and that these disparities are most pronounced in low-income countries with weak infrastructure and limited resources (UNESCO, 2020).

Zambia's performance in SACMEQ assessments, consistently below regional averages (Hungi et al., 2010; Takuya et al., 2019), reflects these broader patterns. However, the fact that some countries in the region have made progress in reducing rural-urban disparities suggests that targeted interventions can be effective. Learning from these examples, while adapting to Zambia's specific context, could inform policy reform.

VI. CONCLUSIONS

This article has examined the systemic disparities between rural and urban schools in Zambia that perpetuate the foundational literacy and numeracy crisis. The evidence presented from a mixed-method survey of 134 teachers across all ten provinces, parliamentary inquiry findings, national assessment data, and international comparisons demonstrates that rural learners are systematically disadvantaged across multiple dimensions.

The core conclusions of this analysis are as follows:

➢ *First, The Rural-Urban Divide is Profound and Persistent.*

With 86% of teachers reporting urban literacy advantage and 71% reporting urban numeracy advantage (Gondwe et al., 2026), the disparity is both widely recognised and deeply entrenched. These gaps reflect not individual or community failures but systemic inequities in resource allocation, teacher deployment, and infrastructure investment.

➢ *Second, Teacher Deployment and Support Systems are Failing Rural Schools.*

While teacher training coverage is relatively strong nationally, well-trained teachers are disproportionately concentrated in urban areas. Rural teachers face inadequate housing, poor working conditions, insufficient hardship allowances, and limited professional support conditions that discourage acceptance of rural posts and drive attrition (Gondwe et al., 2026; Kalaba, 2026).

➢ *Third, Teaching and Learning Material Shortages are Chronic and Severe.*

With approved textbook availability at only 44% for literacy and 47% for numeracy, and supplementary readers in local languages at just 38% (Gondwe et al., 2026), rural learners lack access to the essential materials needed to develop foundational skills. These shortages undermine curriculum implementation, language policy, and learner engagement.

➢ *Fourth, Infrastructure Deficits Represent Fundamental Barriers.*

Inadequate teacher housing, poor sanitation, lack of clean water, and limited electricity and internet connectivity constrain teaching and learning in rural schools (Gondwe et al., 2026; GEFRI, 2025). These deficits affect not only instructional quality but also teacher motivation and retention.

➢ *Fifth, Mentoring and Professional Development Support is Insufficient.*

Only 56% of teachers receive adequate mentoring support (Gondwe et al., 2026), limiting their ability to refine practice, adapt to curriculum requirements, and address classroom challenges. This gap is more severe in rural schools, where isolation and limited access to district support services compound the problem.

➢ *Sixth, Unequal Access to Early Childhood Education Perpetuates Disadvantage.*

Rural children, who lack access to formal ECE, begin primary school already behind their urban peers, and this gap compounds over time (Gondwe et al., 2026; UNICEF, 2019).

In summary, Zambia possesses the professional knowledge and a corps of well-trained teachers necessary for excellence in foundational learning. The crisis is one of environment and equity. The path forward demands courageous political will to re-direct resources and attention to the point of greatest need the rural classroom, and the teacher in it. Until the systemic demotivators are addressed, the nation will continue to underutilise its greatest educational asset, its teachers, and fail to secure the foundational future of its children (Gondwe et al., 2026). The time for incremental change has passed; what is needed is a focused, equitable, and relentless execution of priorities.

RECOMMENDATIONS

Based on the findings and discussion, the following recommendations are proposed for addressing the rural-urban divide in Zambia's foundational literacy and numeracy outcomes.

➢ *Recommendations for Policy and Practice*

- *Recommendation 1: Revise Teacher Deployment and Retention Policies*

Teacher deployment must be planned alongside classroom demand, ensuring that trained teachers are absorbed where shortages exist, reducing class sizes and improving education quality (Kalaba, 2026; Gondwe et al., 2026). This requires accurate, up-to-date data on teacher distribution and vacancies, as well as transparent placement systems.

Rural service must be accompanied by meaningful incentives that compensate teachers for the additional hardships of rural posting. The current rural hardship allowance should be reviewed and increased to a level that genuinely offsets the real costs and challenges of rural life

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(Gondwe et al., 2026; Kalaba, 2026). Deployment policies must respect teachers' family circumstances, with transparent placement systems and support for teachers assigned to hardship areas (Kalaba, 2026).

Workload recognition must reflect classroom realities. Fair workload recognition, support staff where needed, and better resource allocation will allow teachers to focus on teaching and not survival (Kalaba, 2026).

- *Recommendation 2: Guarantee Timely Procurement and Distribution of Quality Learning Materials*

Budget allocations for teaching and learning materials must be increased and protected from reallocation. The ZECF's emphasis on cost-effective, contextually relevant teaching and learning resources should be operationalised through dedicated funding streams (CDC, 2023; Gondwe et al., 2026).

Distribution systems must be strengthened to ensure that materials reach rural schools in a timely manner. This may involve decentralising procurement and distribution, partnering with local organisations, and using technology to track deliveries (Gondwe et al., 2026; MoE, 2024). Every child, regardless of location, must have access to the textbooks, readers, and instructional materials needed to learn effectively (Room to Read, 2026).

Materials must be culturally and linguistically appropriate. Investment in developing and publishing local-language materials, including decodable readers and storybooks that reflect rural children's experiences and environments, is urgently needed (Gondwe et al., 2026; Room to Read, 2026).

Teachers should be supported in creating low-cost teaching aids using locally available materials. This resourcefulness should be encouraged and systematised through teacher training and professional development (Gondwe et al., 2026; Open University, 2026).

- *Recommendation 3: Invest in Essential School Infrastructure*

Infrastructure investment must prioritise rural schools that currently lack basic amenities. Teacher housing must be constructed or rehabilitated to ensure that teachers posted to rural areas have adequate accommodation (Gondwe et al., 2026; Kalaba, 2026).

Access to electricity and internet connectivity must be expanded to enable digital learning and teacher access to online resources. While full electrification of all schools may take time, interim solutions such as solar power can provide immediate benefits (Gondwe et al., 2026; GEFRI, 2025).

Water and sanitation facilities must be improved to support learner health and attendance, particularly for girls. Inadequate sanitation is a major barrier to girls' education and contributes to dropout rates in rural areas (UNICEF, 2019; World Bank, 2018).

Classroom construction and rehabilitation must address overcrowding. Reducing class sizes to manageable levels requires both more classrooms and more teachers (Gondwe et al., 2026; Kalaba, 2026).

- *Recommendation 4: Strengthen School Leadership and Monitoring Systems*

Head teacher training should emphasise instructional leadership skills, including supporting teachers in implementing the ZECF, using data to improve instruction, and fostering collaborative professional learning communities (Gondwe et al., 2026; Open University, 2026).

Monitoring systems must collect and report data disaggregated by urban-rural location to track progress toward equity goals. Without such data, disparities cannot be identified or addressed (Gondwe et al., 2026; IPNEd, 2026a).

School-based professional development should be strengthened and supported. The SPRINT approach's emphasis on developing participatory TGMs and reflecting and learning in TGMs provides a model for continuous professional learning that can be adapted to rural contexts (Open University, 2026). Ensuring that rural teachers have access to regular, high-quality professional development requires investment in facilitator training, materials, and support systems (Gondwe et al., 2026).

- *Recommendation 5: Expand Access to Quality Early Childhood Education (ECE)*

ECE centres should be established in rural communities that currently lack provision, with priority given to the most disadvantaged areas. This may involve constructing new centres, expanding existing primary schools to include ECE, or supporting community-based ECE models (Gondwe et al., 2026; UNICEF, 2019).

ECE teachers must be trained in developmentally appropriate practices and foundational literacy and numeracy instruction. The ZECF's emphasis on competency-based education applies to ECE as well as primary grades, and ECE teachers need the knowledge and skills to implement the framework effectively (CDC, 2023; Gondwe et al., 2026).

ECE must be adequately funded and integrated into the broader education system. Early intervention is more effective and less costly than remediation later (Gondwe et al., 2026; UNESCO, 2020).

➢ *Recommendations for Future Research*

- *Recommendation 6: Conduct Longitudinal Studies on Rural Learner Outcomes*

Longitudinal research tracking rural learners from ECE through secondary school would provide valuable evidence on how early disadvantages accumulate over time and which interventions are most effective at different stages (Gondwe et al., 2026; World Bank, 2018).

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- *Recommendation 7: Undertake Cost-Effectiveness Analysis of Rural Interventions*

Research comparing the cost-effectiveness of different interventions teacher incentives, material provision, infrastructure investment, ECE expansion would inform resource allocation decisions and help prioritise investments (Gondwe et al., 2026).

- *Recommendation 8: Investigate Successful Rural Schools*

Case studies of rural schools that achieve strong learning outcomes despite challenging conditions could identify promising practices and inform strategies for scaling up success (Gondwe et al., 2026).

- *Recommendation 9: Examine the Impact of the Catch-Up Programme in Rural Contexts*

While the Catch-Up programme has shown positive results nationally (Zulu, 2026; VVOB, 2024), research specifically examining its implementation and effectiveness in rural schools would help identify adaptations needed for rural contexts (Gondwe et al., 2026).

- *Recommendation 10: Explore the Role of Technology in Rural Education*

Given the limited technology access documented in this study (Gondwe et al., 2026), research exploring appropriate, cost-effective technology solutions for rural schools including offline digital resources, solar-powered devices, and mobile learning could inform infrastructure investment strategies.

FUTURE STUDIES

Building on the findings of this study, several areas warrant further investigation.

First, longitudinal studies tracking rural learner cohorts over time would provide valuable evidence on how early disadvantages accumulate and which interventions are most effective at different developmental stages. Such research could follow children from ECE through primary and into secondary school, documenting learning trajectories and the factors that influence them.

Second, implementation research examining how national policies and programmes are adapted and enacted in rural school contexts would illuminate the barriers and facilitators to effective implementation. This research could focus specifically on the Catch-Up programme, the ZECF, and the SBCPD programme, examining how these initiatives reach (or fail to reach) rural schools and how they are experienced by rural teachers and learners.

Third, comparative research examining rural education across Zambian provinces and across countries in the region could identify promising practices and contextual factors that influence outcomes. Learning from countries that have made progress in reducing rural-urban disparities could inform Zambia's policy reform.

Fourth, participatory action research engaging rural teachers, learners, and communities in identifying problems and designing solutions could generate locally appropriate innovations and build ownership for change. Such research could complement top-down policy reforms with bottom-up initiatives grounded in local realities.

Fifth, cost-effectiveness research comparing different intervention packages teacher incentives, material provision, infrastructure investment, ECE expansion would inform resource allocation decisions and help prioritise investments in a context of constrained resources.

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