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POLICY BRIEF · RWANDA

Reducing Class Sizes Can Improve Learning in Rwanda's Public Primary Schools

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Key messages

- **Prioritise class size reductions in Grades 1–3,** where learning gains are highest and returns are most cost-effective.
- **Set a national target of 40–45 pupils per stream in public primary schools**—reductions beyond this threshold yield diminishing returns.
- **Accelerate the shift to single-shift schooling in early grades**—class size reductions deliver significantly larger gains in single-shift schools.
- **Complement class size reductions with structured teacher support**—coaching, lesson guides, and professional development—to sustain gains beyond the short run.

The problem

Globally, especially in developing countries, there has been remarkable progress in reducing the number of out-of-school children, with significant increases in school enrolments (World Bank, 2022). However, learning poverty—defined as the inability to read and understand a plain text, write, or perform basic numeracy tasks by age 10—remains high, particularly among pupils in government-owned schools. In Sub-Saharan Africa, the learning poverty rate stood at 86% before the COVID-19 pandemic and was further exacerbated by pandemic-related school closures.

In Rwanda, despite the significant progress in expanding school enrolment, learning outcomes remain deeply concerning. The national pupil–classroom ratio rose from 50:1 to 52:1 between 2022/23 and 2023/24, with public primary schools averaging 60:1. Over the same period, the pupil–teacher ratio increased from 42:1 to 48:1, driven by a 6% increase in enrolment (Ministry of Education (MINEDUC), 2025). The government has also introduced several curriculum reforms, including the Competence-Based Curriculum (CBC) in 2019. Despite these efforts, about 80% of lower primary pupils still fall below required reading levels, and only 16% meet early grade reading benchmarks (UNESCO, 2022).

School resources such as class size remain central to the debate about how to improve learning outcomes. Overcrowded classrooms stands as a key barrier to improving learning outcomes of pupils. In particular, when class sizes are so large, the quality of instruction is fundamentally compromised, as meaningful teacher-pupil engagements and individualized attention becomes almost impossible. However, class size reductions are not without cost implications, making it essential to know not just whether class size reduction works, but for whom, under what conditions, and how small classes need to be before meaningful gains materialize. This study provides precisely this evidence, to guide policymakers and stakeholders in targeting class size reductions where they matter most.

Table 1: Effect of class size reduction in the short-run (school Term 1) in Rwanda

Short-run learning gains (Term 1) · effect per ~16-pupil reduction in class size	
English * *Significant*	+0.23 SD
SET * *Significant*	+0.22 SD
SRS * *Significant*	+0.20 SD
Kinyarwanda ~ *Marginal*	+0.13 SD
Mathematics x *Not significant*	~0.00

Notes: * Statistically significant, ~ Marginally significant, x Not significant, SD = standard deviation; bars scaled to 0.25 SD maximum.

About the study

Does reducing the number of pupils in a classroom actually help children learn better? And if so, by how much, for which children, and under what conditions? The analysis draws on administrative data from New-Globe on 761 public primary schools participating in the RwandaEQUIP programme across all five provinces of Rwanda during the 2023–2024 school year. It covers all six primary grade levels and tracks pupil performance across five subjects—English, Kinyarwanda, Mathematics, Science and Elementary Technology, and Social and Religious Studies.

The study leverages the class size threshold implemented as a part of the RwandaEQUIP programme which requires schools to split classes into smaller groups once enrolment reaches a set limit of 69 pupils. This creates a natural comparison: schools just above the limit end up with smaller classes, while those just below do not. By comparing these two groups of otherwise similar schools, the study can isolate the specific effect of class size on learning outcomes—independent of other factors. The findings from this analysis directly underpin the policy options and recommendations in this brief. They tell us not just whether reducing class sizes works, but where to focus, how far to go, and what else needs to be in place for the benefits to last.

Key findings

The findings show that reducing class size can generate meaningful short-term improvements in learning outcomes. In Term 1, a one standard deviation reduction in class size—equivalent to approximately sixteen fewer pupils per stream—resulted in significant learning gains across several subjects (Table 1).

By Term 3, learning gains across subjects remained positive but were no longer statistically significant, suggesting that class size reductions alone may not sustain long-term improvements without complementary interventions. Mathematics was the only exception, with gains increasing slightly over time, reflecting the cumulative nature of numeracy skill development.

The findings also show that the effects of class size reductions vary by grade level, shift model, and stream size (Table 2).

The evidence allows a direct comparison of the main policy options available to MINEDUC and education partners, assessed across four criteria (Table 3).

Policy option 2—targeted reductions in Grades 1–3 to 40–45 pupils per stream—is the recommended option, as it offers the strongest evidence base, combining high learning impact with manageable cost and strong political alignment with Rwanda's existing RwandaEQUIP programme and foundational learning priorities.

Conclusion

Rwanda has made significant progress in getting children into school. However, there is the need to ensure that the children are learning while they are there. The evidence from this study is clear: reducing class sizes works—but only when done strategically, in the right grades, to the right size, and with the right support in place for teachers.

Three key policy messages arise from this study, particularly for the Ministry of Education (MINEDUC): First, prioritize Grades 1–3 for class size reductions, where the returns to smaller classes are highest and most durable. Second, adopt 40–45 pupils per stream as the national planning benchmark—this is the range where learning gains are maximized and additional reductions yield little further benefit. Third, accelerate the transition to single-shift schooling, particularly in early grades, building on the progress already made under Rwanda EQUIP. These actions align directly with Rwanda's broader reform agenda, including the Competence-Based Curriculum and Rwanda EQUIP's focus on foundational literacy and numeracy.

Policy implementation roadmap

The following recommendations are organized by implementation timeline and cover targeted class size reductions and teacher support.

Short-term action plans

- The Ministry of Education conducts a rapid audit of Rwanda EQUIP schools to identify Grade 1–3 classrooms exceeding 45 pupils per stream.

Table 2: Effect of class size reduction by grade level, shift model, stream size in Rwanda

Grade level: Grades 1–3 drive the gains	**Shift model:** Single-shift schools benefit most	**Optimal class size:** 40–45 pupils per stream: the policy optimal threshold
Up to 0.35 SD gain in English (lower primary)	+0.18 SD vs ~0.13 SD single vs double shift (English)	<40 pupils yields diminishing returns
Effects are largest in early grades, where close teacher–pupil interaction is most critical for building foundational skills.	In double-shift schools, additional streams increase teacher workload, offsetting the benefit of smaller classes.	Further reductions below 40 pupils yield no additional significant gains—this range maximizes returns per teacher hired.

Table 3: Comparison of policy options for reducing class sizes in Rwanda

S/N	Policy option	Impact	Cost	Political feasibility	Risk
1	Maintain status quo	None	Low	High	Continued learning poverty
2	Targeted reduction, Grades 1–3 only (40–45 pupils per stream)	High	Moderate	High	Requires sustained teacher recruitment pipeline
3	System-wide reduction, all grades (40–45 pupils per stream)	Moderate	High	Moderate	Fiscal strain; upper-grade effects weaker or negative
4	Ambitious reduction below 40 pupils per stream	Low marginal gain	Very high	Low	Diminishing returns; unsustainable teacher costs

- The Ministry of Education/Rwanda Education Board: Adopt 40–45 pupils per stream as the national planning benchmark for early grades.
- The Ministry of Education accelerates the transition from double-shift to single-shift schooling in Grades 1–3.

Medium-term action plans

- The Ministry of Education/Rwanda Education Board: Integrate the 40–45 pupil threshold into national teacher recruitment and deployment plans.
- The Ministry of Education/Development partners: Scale structured pedagogy support—lesson guides, coaching, and CPD—alongside class size reductions under Rwanda EQUIP.

Long-term action plans

- Finance Ministry/Ministry of Education: Undertake cost-effectiveness assessments to guide workforce planning and sustainable financing.
- The Ministry of Education/Rwanda Education Board/Development partners: Secure sustainable financing commitments for targeted class size reduction policies.
- The Ministry of Education/Rwanda Education Board: Develop long-term strategies for recruiting, training, deploying, and retaining qualified teachers, prioritising early grades.

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About this brief

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