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2017-2018

**Sample Size**

6,174 primary schools

**Research Implemented by IPA**

Yes

# Teaching Staff Imbalances across Public Primary Schools in Zambia

## Abstract

Though Zambia has made significant progress in increasing access to education, allocation of resources within the system remains a challenge. This study describes the distribution of teachers across public primary schools in Zambia, examines the underlying administrative challenges and geographic factors linked to the allocation of teachers, and offers policy recommendations in order to create a more equitable teacher distribution, which may also be more efficient. Results show that pupil teacher ratios widely vary across schools, and that this variation is localized between schools in the same district. The research links staffing imbalances directly to administrative challenges such as the lack of enforcement of the Ministry of Education's teacher allocation rule, weak teacher deployment and transfer policies, payroll mismatch, weaknesses in the budgeting process for teacher positions, and staffing challenges in rural vs. urban schools.

## Policy Issue

Many developing countries have significantly improved access to primary school education, spurred by initiatives such as the United Nations Millennium Development Goals (MDGs), which called for achieving universal primary education by 2015. Enrolling more children has strained education systems—primary schools are failing to equip a large portion of students with even basic reading, writing, and math skills. It is well-known that the expansion in access has not been accompanied by a commensurate increase in trained teachers, putting a strain on schools and increasing pupil-teacher-ratios (PTRs). Yet an understudied topic is the

distribution of teachers across schools.

This research, which describes the allocation of teachers across public primary schools in Zambia, is part of a global project examining the distribution of teachers across public schools within 86 countries.

## Context of the Evaluation

Zambia has made significant progress in increasing access to education, but allocation of resources within the system remains a challenge. The Zambian Ministry of Education has a rule that no school should have a pupil-teacher-ratio greater than forty students to one teacher. However, this rule is largely not followed. In order to satisfy the rule, approximately 12,500 new teachers would need to be hired. Therefore, it is understandable that the PTRs of most schools is higher than the maximum allowed. At the same time, 21 percent of schools have more teachers than required, suggesting deployment and transfers are not responsive to current staffing needs.

## Details of the Intervention

*[Note: This is not a randomized controlled trial.]*

This descriptive study examined the Ministry of Education and the Public Service Management Division's administrative data to document staffing imbalances across Zambian public primary schools and make policy recommendations intended to create a more balanced deployment of teachers across Zambia.

The research team collected school census data, government payroll data, national test score data (grade 7), and publicly available data on population density, nighttime luminosity, and travel time to the closest city. This data was used to measure enforcement of the ministry's teacher allocation rule, compliance with transfer policies, the extent of payroll mismatch, variation in living and working conditions, and other outcomes. IPA supported in the collection, cleaning, and analysis of administrative data.

## Results and Policy Lessons

This research identified five interlinked administrative and spatial factors that contribute to staffing imbalances:

### **Lack of enforcement of the Ministry of Education's teacher allocation rule**

The study found that 73 percent of public primary schools had PTRs greater than the required maximum and PTRs widely varied across public primary schools in Zambia. While some schools had very large numbers of students per teacher, a relatively high number of schools had a much smaller ratio of students to teachers. Though the national aggregate PTR was 44, the bottom 10 percent of schools had PTRs below 30 and the top 10 percent had PTRs above

101. Approximately 16 percent of the public primary school population attended schools with a PTR above 80. PTR variation in Zambia was mostly localized between schools within the same district, rather than across districts.

While nearly three-quarters of schools have PTRs higher than 40, 21 percent of schools have more teachers than the minimum number of teachers to meet the ministry's rule. Many of these heavier staffed schools could have teachers transferred to schools with fewer teachers than necessary and still have a PTR in line with the Ministry's directive.

In order to reach the government's targeted PTR with the current number of pupils and teachers, approximately 12,500 additional primary school teachers would have to be hired. Given the current number of teachers in the public primary school system, the researcher calculates that the smallest maximum PTR that could be achieved nationwide would be 48.

### **Weak deployment and transfer policies**

The deployment of new teachers and the transfers of existing teachers to schools were largely not based on school staffing needs, and partially explain the coexistence of over and understaffed schools. While most schools did not receive new teachers each year, the schools that did receive teachers were often those that were already sufficiently staffed and met the PTR rule. Additionally, the teacher transfer process contributed to unbalanced staffing patterns. Between 2010 and 2017, approximately forty percent of transfers moved teachers into schools with lower PTRs than those they came from. In principle, there are regulations that limit the number of transfers and their impact on PTRs. However, as the data indicate, they were not respected.

### **Payroll mismatch**

In Zambia, staff do not always work at the facility they are listed at in the government payroll system. This "payroll mismatch" limits the government's ability to deploy teachers according to school staffing needs. Because of payroll mismatching, understaffed schools may not show vacancies in the payroll system and overstaffed schools may not show excess teachers. Results suggest at least forty percent of teachers did not work at the school where they were being paid.

### **Weaknesses in the budgeting process for teacher positions**

Eliminating payroll mismatch would not eliminate the variation in staffing levels across schools. In fact, even if the payroll perfectly reflected schools' actual staffing levels, PTRs would still vary substantially across schools due to inequalities in the number of sanctioned teaching positions across schools. One of the main factors behind the dispersion in sanctioned PTRs appears to be that establishment registers, government lists detailing positions at each school that have been budgeted for, are updated infrequently.

### **Spatial variation in living and working conditions**

There are considerable staffing imbalances between rural and urban schools in Zambia. Rural

schools have on average four vacancies and urban schools are on average overstaffed by four teachers. However, this imbalance explains less than five percent of the variation in PTRs.

*Policy recommendations:*

Based on this data, the researcher recommends that the Ministry of Education aim to achieve the following in order to ensure a more equitable distribution of teachers across primary schools:

Short-term goals to implement a one-time reallocation process:

- *Collect data on paypoints and actual locations of teachers*
- *Establish an achievable maximum PTR rule to guide teacher allocation*
- *Update school establishment registers with regards to the achievable maximum PTR rule*
- *Align staffing with establishment registers*

Longer-term goals to enforce an equitable distribution in the long-run:

- *Deploy new teachers exclusively to schools in need of teachers*
- *Enforce transfer policies*
- *Revise incentive schemes to attract teachers to remote schools if lack of teacher supply constrains staffing in certain areas*

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