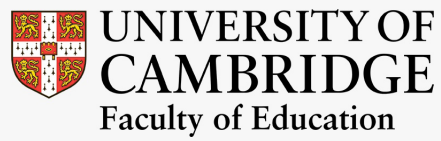
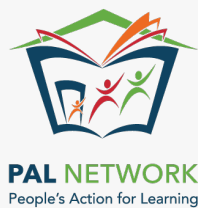


# Cost, Impact and Equity Analysis

of My Village Learning Camps in Tanzania  
and Nepal





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# 1. Introduction

Foundational learning remains one of the most persistent challenges in low- and middle-income countries. Despite substantial progress in school access, millions of children complete primary education without mastering basic literacy and numeracy skills. For example, **in sub-Saharan Africa, only one in five children achieves minimum proficiency in reading and numeracy by the end of primary school (UNESCO, 2022).** These widespread learning gaps have prompted interest in alternative, context-responsive approaches that complement formal schooling. **Collaborative models that engage parents, teachers, and communities, such as accelerated or remedial learning programs, have demonstrated that learning can be improved** when instruction is aligned with children's current skill levels rather than their age or grade (Banerjee et al., 2016; Banerjee et al., 2010; Duflo et al., 2024).

Teaching at the Right Level (TaRL) is an evidence-based pedagogical approach widely recognized as a highly effective form of Accelerated Learning Pedagogy (ALP). It has been widely studied across diverse contexts and implemented by various actors, including teachers, para-teachers, volunteers, and civil society organizations (CSOs) (Duflo et al., 2011; Ismail et al., 2024) rather than following an over-ambitious uniform curriculum, can lead to significant learning gains. In this study, we evaluate a series of efforts to scale up the NGO Pratham's approach to teaching children according to their actual learning level, in four Indian States. While this approach was previously shown to be extremely effective when implemented with community volunteers outside of school, the objective of these new scale-up evaluations was to develop a model that could be implemented within the government school system. In the first two instances (Bihar and Uttarakhand). However, while many interventions show promise in improving foundational skills, little is known about their relative cost-effectiveness when implemented across different countries or regions and through different delivery systems.

Existing literature is often based on randomized controlled trials (RCTs) and tends to focus on average treatment effects, providing limited insight into how program impacts and costs vary across delivery models and implementation contexts. Meta-analytic evidence shows substantial heterogeneity in treatment effects across interventions and settings, however, this variation is rarely linked to differences in delivery systems or contextual constraints (McEwan, 2015;

Vivalt, 2020). Moreover, cost-effectiveness evidence is often narrowly focused on pilot period, offering limited guidance on the costs and impacts of realistic delivery through government or community systems at scale. Early cost-effectiveness analyses often rely on tightly managed pilot programs, which may benefit from unusually high levels of supervision and external support, thereby limiting their external validity for large-scale public implementation (Dhaliwal et al., 2013). Furthermore, studies rarely account for the additional expenses involved in reaching marginalized learners, such as those in remote, low-resource, or socially excluded communities. **Recent work has shown that interventions targeting harder-to-reach populations face substantially higher per-child costs due to factors such as transport, staffing constraints, and lower population density (Evans & Yuan, 2022).** Similarly, World Bank (2018) suggests that ignoring these equity-related costs can lead to overly optimistic value-for-money assessments and misguided policy prioritization.

**This report contributes new evidence on the use of cost-effectiveness analysis (CEA) to inform education investment decisions,** drawing on the My Village learning camps, an accelerated learning program implemented in remote rural areas of Nepal and Tanzania. The program uses the TaRL approach to deliver targeted literacy and numeracy instruction based on children's learning levels, and is implemented through two distinct delivery models: a school-led model in Tanzania and a community-led model in Nepal. By comparing costs and learning outcomes across delivery models and geographic contexts, the report assesses how CEA can be applied to program serving hard-to-reach populations. The findings highlight key trade-offs and equity considerations relevant for policymakers seeking to improve learning outcomes among the most marginalized children.

We will address the following research questions:

**RQ1. How do the costs and cost structures of learning camps differ within and across countries?**

**RQ2. How do learning impacts compare within and across the countries?**

**RQ3. How does cost-effectiveness vary by country and district, and which groups benefit most at the lowest cost?**

To answer these questions, the report uses household-level data collected from baseline and endline assessments of children's foundational skills in mathematics and language, alongside detailed information on children's personal characteristics, family backgrounds, and school attendance. These data are combined with ingredients-based cost data collected across three districts in Tanzania and Nepal. The analysis finds substantial improvements in foundational literacy and numeracy in both contexts, with larger learning gains and lower cost per beneficiary observed in the community-led model in Nepal compared to the school-led model in Tanzania. Heterogeneity analyses suggest that the learning camps were particularly cost-effective for improving numeracy skills in Ludewa district and literacy skills in Gairo district in Tanzania, and for both skills in Sarlahi district in Nepal.

This report contributes to the existing literature in several ways. First, it provides within-program comparative evidence on how the same pedagogical model, the TaRL, performs when delivered through school-led versus community-led structures. While these findings offer valuable insights, they should be interpreted with caution, as each delivery model was developed and implemented in distinct national contexts. Nonetheless, the comparison highlights the importance of considering the feasibility and appropriateness of delivery modes in light of contextual realities.

Second, the report combines detailed, ingredients-based costing with impact estimates to calculate and compare cost-effectiveness ratios across two delivery models, school-led in Tanzania and community-led in Nepal. This approach helps identify which delivery model provides greater value for money under similar pedagogical design and assessment conditions, while also acknowledging the role of remoteness in shaping overall costs.

Third, the report introduces an equity-sensitive lens by examining heterogeneity in the cost-effectiveness within and across countries, highlighting who benefits most. Recognizing that reaching remote and marginalized populations typically entails higher delivery costs, the analysis highlights the equity trade-offs that arise when interpreting program results and making investment decisions aimed at improving learning outcomes for the most disadvantaged children.

By comparing two delivery models of a single pedagogy, this report provides descriptive and policy-relevant insights into the cost, impact, and equity implications of alternative implementation strategies. Nevertheless, these comparisons should be interpreted with caution, as the interventions were implemented in distinct national contexts, limiting the validity of direct causal comparisons. Overall, the findings aim to inform governments, donors, and implementing partners seeking cost-effective and equitable strategies to strengthen foundational learning systems.



## 2. Background and Literature Review

### Value for Money (VfM) in education

Value for Money (VfM) has become a central concern in education policy, particularly where fiscal resources are constrained and learning outcomes remain persistently low. While substantial investments over recent decades have expanded access to schooling, these gains have not consistently translated into improved learning, raising questions about the efficiency and effectiveness of education spending. As a result, governments, donors, and non-governmental organizations increasingly seek evidence not only on whether interventions improve learning outcomes, but also on whether they generate meaningful gains relative to their costs (Pritchett, 2015; World Bank, 2018) but are mainly coherent as systems only around enrollment targets. This paper builds an accountability framework of actors and the four design elements of accountability (delegation, financing, information and motivation).

In this context, **VfM assessments are critical for informing decisions about program selection, scale-up, and resource allocation.** Policymakers must often choose among multiple interventions that pursue similar objectives, such as improving foundational literacy and numeracy, but differ substantially in their cost structures, delivery mechanisms, and scalability. Without systematic evidence on VfM, these decisions risk being driven by short-term results, political considerations, or implementation convenience rather than by efficiency and equity considerations.

### Cost-Effectiveness Analysis (CEA) and Its Distinction from Cost-Benefit Analysis (CBA)

Cost-effectiveness analysis (CEA) offers a practical and policy-relevant tool for assessing VfM in education. CEA compares the costs of interventions to their impacts measured in natural or policy-relevant units, such as learning gains, additional years of schooling, or the number of children achieving minimum proficiency, without requiring outcomes to be monetized (Dhaliwal et al., 2013; Levin et al., 2018). This distinguishes CEA from cost-benefit analysis (CBA), which aims to convert all costs and benefits into monetary terms in order to estimate net social returns or benefit-cost ratios (Boardman et al., 2018).

While CBA is theoretically attractive for cross-sector comparisons, its application in education is often affected by the difficulty of credibly monetising learning outcomes. Estimating the economic returns to improved foundational skills requires strong assumptions about future earnings, labour market structures, discount rates, and macroeconomic conditions, which are particularly uncertain in low-income and fragile contexts. Moreover, education generates a wide range of social and non-market benefits that are difficult to capture in monetary terms.

CEA avoids these challenges by focusing on relative efficiency: it helps identify which interventions achieve a given educational outcome at the lowest cost, or which produce the greatest learning gains for a given budget. In education, CEA enables comparisons using intuitive metrics such as cost per 0.1 standard deviation increase in test scores, cost per additional child reaching minimum proficiency, or cost per equivalent year of learning. These metrics are more immediately interpretable for policymakers and can be directly incorporated into budgeting, prioritisation, and scale-up decisions.

Recognising these advantages, organisations such as J-PAL and the World Bank have increasingly promoted CEA as a practical and policy-relevant approach for guiding education investments (J-PAL, 2020; The Strategic Impact Evaluation Fund (SIEF), 2023)2023. Nonetheless, CEA remains underused in education research, and where it is applied it is often confined to RCT-anchored evaluations and focuses on average treatment effects and average program costs (Kremer et al., 2013; McEwan, 2015).

## Existing education CEAs & Highlight the gaps

A growing body of education CEAs has demonstrated substantial variation in cost-effectiveness across interventions, even when impacts appear similar. Early reviews by Dhaliwal et al. (2013) and McEwan (2015) show that relatively low-cost interventions, such as targeted instruction, structured pedagogy, or remedial education, often outperform more resource-intensive inputs (e.g., infrastructure or technology investments) in terms of learning gains per dollar spent. More recent work has expanded these comparisons using harmonized learning metrics, enabling cross-study benchmarking of cost-effectiveness (Angrist et al., 2020)making comparisons between the results is challenging. Some studies report changes in years of schooling; others report changes in learning. Standard deviations, the metric typically used to report learning gains, measure gains relative to a local distribution of test scores. This metric makes it hard to judge if the gain is worth the cost in absolute terms. This paper proposes using learning-adjusted years of schooling (LAYS. They find substantial variation in cost-effectiveness across interventions, with some of the most cost-effective programs generating learning gains equivalent to approximately three additional years of high-quality schooling at a cost of around US\$100 per child, while other types of interventions produce little to no equivalent learning improvement.

Despite these evidence, several important gaps remain in the literature. First, CEAs in education are disproportionately concentrated on school-based interventions delivered through existing government systems, with far fewer studies examining community-based or non-formal education interventions (McEwan, 2015; Snilstveit et al., 2016). This limits the evidence base available to policymakers considering strategies to reach out-of-school children, remote populations, or learners who are poorly served by formal schools.

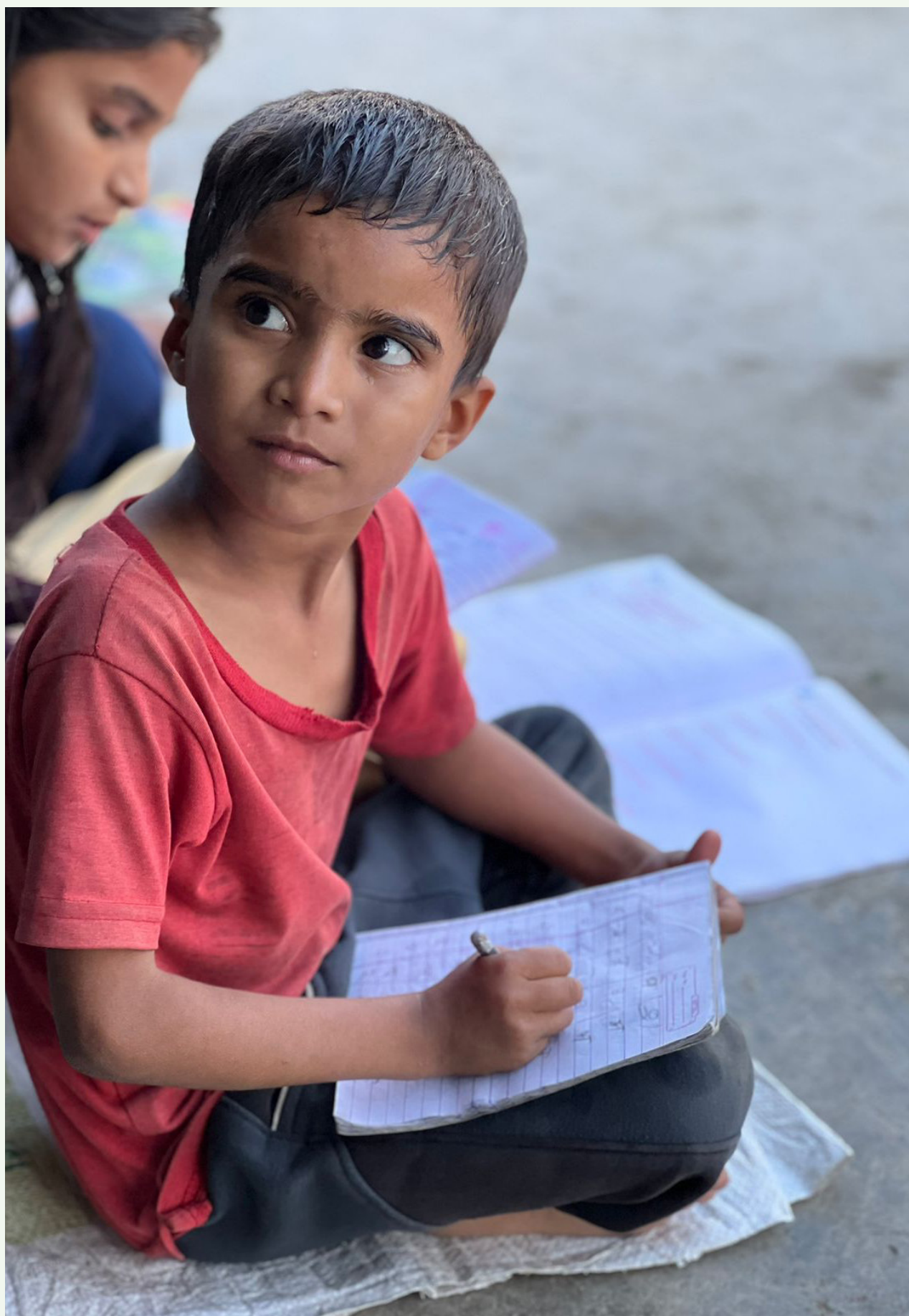
Second, equity considerations are often insufficiently addressed. Most CEA studies pay limited attention to equity, that is, to whether interventions reach

girls, remote learners, or poorer households, and how cost-effectiveness varies by subgroup or different setting (Alcott et al., 2018). As a result, policy makers lack evidence on the equity-efficiency trade-offs that inevitably arise when trying to reach the most disadvantaged, for whom delivery typically involves higher logistical and opportunity costs.

Third, many CEAs rely on data from small-scale or pilot programs implemented under relatively ideal conditions. These settings often benefit from intensive supervision, external technical support, and flexible implementation arrangements that may not be replicable at scale. Consequently, existing estimates may underestimate true delivery costs and overstate cost-effectiveness when programs are expanded through government or community systems in more challenging contexts (Dhaliwal et al., 2013).

Overall, these gaps highlight the need for CEA evidence that explicitly compares delivery models, accounts for contextual and geographic variation in costs, and incorporates an equity-sensitive perspective. Addressing these limitations is essential for informing education investment decisions that are not only efficient, but also equitable and scalable, particularly in settings where reaching the most marginalised learners is both most challenging and most necessary.





# 3. Context, Intervention and Sample

## Country and Region

This report examines the My Village learning camps in two low-income country contexts, and Tanzania, where foundational learning gaps remain severe, particularly in rural and marginalised communities. The two countries provide a useful comparative setting as they face similar challenges in learning outcomes but differ in institutional capacity, governance structures, and feasible delivery mechanisms.

In Tanzania, the programme adopted a school-led delivery model in three districts, Ludewa, Kisarawe, and Gairo, where rural isolation, learning poverty, and school accessibility constraints are prevalent. While Tanzania benefits from relatively stronger government education structures, rural schools continue to face shortages of trained teachers, learning materials, and consistent attendance, particularly during rainy seasons. In Nepal, the programme was implemented through a community-led delivery model across three districts, Surkhet, Sarlahi, and Makwanpur, characterized by high levels of poverty, social exclusion, and barriers to regular school attendance. These districts include diverse geographic settings, from the Terai plains to hilly and remote areas, and populations affected by seasonal migration, gendered labour demands, and limited access to quality schooling. Together, these two contexts allow for an examination of how a common pedagogical approach performs under different institutional and geographic conditions.

Program sites in both countries were selected using a deliberate equity-focused targeting strategy, prioritising villages with high learning poverty, limited access to educational resources, and large populations of marginalised or out-of-school children. By embedding learning activities within schools in Tanzania and within communities in Nepal, the program aimed to reduce participation barriers and reach children who are often underserved by formal education systems.

## Description of the My Village learning camps

The My Village learning camps target rural communities with the greatest need for foundational learning support, using a context-responsive model grounded in TaRL principles. The core pedagogy, grouping children by learning level rather than age or grade, conducting regular assessments, and delivering tailored instruction in literacy and numeracy, remains constant across settings. Across both countries, children were assessed at baseline and periodically throughout the program and regrouped based on demonstrated learning levels. Instructional activities were aligned with children's current competencies and delivered in short, intensive cycles designed to accelerate learning gains.

However, the delivery model and operational details differ between Nepal and Tanzania. In Tanzania, the program followed a school-led model, leveraging existing government education infrastructure. Learning camps were conducted on school premises, with instruction facilitated by trained volunteers and at least one government teacher per site. Camps were scheduled before or after regular school hours and implemented in three cycles of ten days, with breaks in between. In Nepal, the program adopted a community-led model designed to overcome barriers related to school access. Learning camps were primarily held in community spaces or volunteers' homes and often scheduled before or after regular school hours. Two trained community volunteers per village delivered instruction using locally relevant materials in Nepali.

## Data and Sample

This report focuses on Phase I of the My Village project, which was implemented between 2022 and 2023 across 121 villages in Nepal and 100 villages in Tanzania, reaching more than 20,000 children in total; 12,368 in Nepal and 7,918 in Tanzania attended learning camps. The analysis draws on household- and child-level data collected at baseline and endline, including information on children's demographic characteristics, schooling status, and performance in mathematics and language assessments. These assessments were conducted in the households of all

children aged 6-17 present at the time of the baseline survey, irrespective of their school attendance status.

The survey data were matched with detailed programme participation records and cost information. The analysis includes only children who participated in both the baseline and endline surveys and whose

records could be linked across survey rounds using a unique individual identifier. After data cleaning and matching, the final analytical sample includes 1,612 children in Nepal and 2,340 children in Tanzania. This sample forms the basis for the cost, impact, and equity analyses presented in the subsequent sections.



# 4. Methodology



## Costing Methodology

This study follows the J-PAL and World Bank Strategic Impact Evaluation Fund (SIEF) Costing Model (J-PAL, 2020; The Strategic Impact Evaluation Fund (SIEF), 2023), which estimates costs using an ingredients-based approach. The first step in this framework is to clearly define the scope of the intervention and identify all relevant costs and beneficiaries<sup>1</sup>. For the My Village program, this involves documenting all activities required to deliver the learning camps across Tanzania and Nepal.

In estimating intervention costs, only those expenses that are essential for implementing the learning camps are included. A key feature of the costing framework is the distinction between existing system costs and incremental program costs. When learning camps are

implemented through schools, existing system inputs, such as teacher salaries or school infrastructure, are included only to the extent that the intervention requires additional time, effort, or resources beyond the status quo. Consistent with this approach, all research-related costs are excluded from the analysis.

To enable more precise cost modelling, costs are categorized as start-up, fixed, and variable costs, using the framework below:

1. **Start-up Costs:** One-off expenses required to initiate an intervention. Example include:
  - Program design and setup costs
  - Learning camp development costs
2. **Fixed Costs<sup>2</sup>:** Expenses that remain constant regardless of the number of participants reached. Example include:
  - Administrative Costs
  - Staff salaries
3. **Variable Costs:** Expenses that change depending on the number of beneficiaries, geographical coverage, or participant needs. Example include:
  - Costs of the intervention activities
  - Volunteer and teacher remuneration

A key challenge in cost-effectiveness analysis is ensuring that all costs and impacts are comparable. This requires consistently adjusting for inflation, exchange rates, and the timing of costs and benefits.

According to Dhaliwal et al. (2013), the standard cost adjustment procedure involves converting costs into a common currency (usually USD), discounting costs and benefits back to the program's base year, and then inflating the resulting value forward to the year of analysis. As the cost data used in this study

1 Due to data limitations, we do not include opportunity costs.

2 It is important to note that while fixed costs are generally treated as constant, they may initially vary depending on the size and scope of the project. For example, launching a large-scale intervention may require additional administrative staff or setup support, leading to higher initial costs. However, once these fixed costs are established, they are typically shared across the full scale of the program and do not fluctuate based on local implementation needs. This distinction is essential for understanding how costs behave during scaling and replication.

are already reported in USD, no currency conversion is required. Following the J-PAL approach, we express costs in real terms using the US inflation rate rather than applying Purchasing Power Parity (PPP) adjustments, which can be useful for cross-country comparisons but may distort estimates of program costs. Programme costs were first estimated based on actual financial expenditures incurred during implementation (2022–2023) and are reported in 2022 US dollars to reflect the real resources required to deliver the intervention.

To enable comparability with existing cost-effectiveness studies, costs are also expressed in constant 2011 US dollars, using the US inflation rate to adjust for changes in price levels over time. Purchasing Power Parity (PPP) adjustments are not applied, as the objective is to reflect actual programme costs rather than cross-country price differences. Costs are disaggregated by country and district. Shared costs, such as project coordination or training materials used across all sites, are proportionally allocated to each district based on the number of camp participants in that district.

## Effectiveness Measures

The key explanatory variable of interest is attendance at learning camps, determined by whether the children have participated in any camp sessions. Children who attended any sessions are placed in the treatment group, while those who did not attend any sessions but completed both the baseline and endline surveys are in the control group.

We focus on fundamental numeracy and literacy skills as the outcomes of interest. Learning outcomes are measured through the International Common Assessment of Numeracy (ICAN) and the International Common Assessment of Reading (ICAR) using local languages. For a clearer understanding of the specific areas assessed, the outcome variables are detailed in Table 1. Description of the outcome variables. Children are considered to have achieved these skills if they correctly answer a certain proportion of questions in each skill section (e.g., 4 out of 5 questions or 2 out of 3 questions, depending on the section). These skills were assessed before and after the intervention for all children.

| Outcome Variables     | Specific Skills                                |
|-----------------------|------------------------------------------------|
| <b>Numeracy</b>       |                                                |
| One-digit Rec.        | One-digit recognition                          |
| Two-digit Rec.        | Two-digit recognition                          |
| No-carry Addition     | Addition without carry-over                    |
| No-borrow Subtraction | Subtraction without borrow                     |
| Single-digit Mult.    | Single digit multiplication                    |
| Single-digit Div.     | Single digit division                          |
| Carry-over Addition   | Addition with carry-over                       |
| Borrow Subtraction    | Subtraction with borrow                        |
| 2x1 Mult.             | Two-digit by one-digit multiplication          |
| 2x1 Div. w/ Rem.      | Two-digit by one-digit division with remainder |
| WP: Subtraction       | Word problem: Subtraction                      |
| WP: Division          | Word problem: Division                         |
| <b>Literacy</b>       |                                                |
| Letter                | Can identify letters                           |
| Word                  | Can read words                                 |
| Paragraph             | Can read a paragraph                           |
| Story                 | Can read a story                               |

**Table 1. Description of the outcome variables**

We estimate the impact of the learning camps using a Difference-in-Differences (DiD) specification with individual fixed effects to account for unobservable factors that could bias the estimates. This approach identifies the effect of the intervention by comparing changes in outcomes over time between a treatment group and a control group. The estimating equation is:

$$y_{vit} = \beta_0 + \beta_1(Camp_i * After_t) + \beta_2 X_{it} + \alpha_i + \gamma_v + \epsilon_{vit} \quad (1)$$

where  $y_{vit}$  is the outcome, the specific numeracy or literacy skill, for village  $v$ , individual  $i$ , at time  $t$ ;  $\beta_0$  is the intercept of the model;  $\beta_1$  is the coefficient for the main variable of interest,  $Camp_i * After_t$ , which measures average treatment effect of the learning camps;  $X_{it}$  represents a vector of other control variables included in the regression, and  $\beta_2$  is the vector of coefficients corresponding to these control variables.  $\alpha_i$  and  $\gamma_v$  represent the fixed effects for each individual  $i$  and each village  $v$ , respectively.

Because the data contain only two observations per child (one before and one after the intervention), it is not possible to formally test the parallel trends assumption. Instead, the identification strategy relies on the assumption that, in the absence of the intervention, treated and control children would have experienced similar changes in outcomes over time.

Thus, to improve comparability between treated and control children, we construct entropy balancing weights using baseline covariates, including child demographic characteristics (sex, age group, and disability status), household socioeconomic indicators (wealth index and parental education), school characteristics (type of school attended and whether the child receives paid tuition), language spoken at home, and baseline learning scores in numeracy and literacy.

According to Hainmueller (2012), entropy balancing is an entropy maximization method that matches the first, second, and possibly higher moments of the covariate distributions between treatment and control groups. In this study, we match the first three moments, mean, variance, and skewness, of the selected baseline covariates. The method incorporates covariate balance directly into the weighting procedure while minimizing the deviation of the weights from the original sample weights, therefore, preserving as much information from the data as possible. All regressions are estimated using weighted fixed-effects models, and standard errors are clustered at the child level.

After applying entropy balancing weights, the treated and control groups display comparable distributions of baseline covariates. Balance statistics before and after

weighting are reported in the Appendix. The estimated weights do not exceed 4.5 in Tanzania and 2 in Nepal, indicating good overlap and no evidence of extreme weighting.



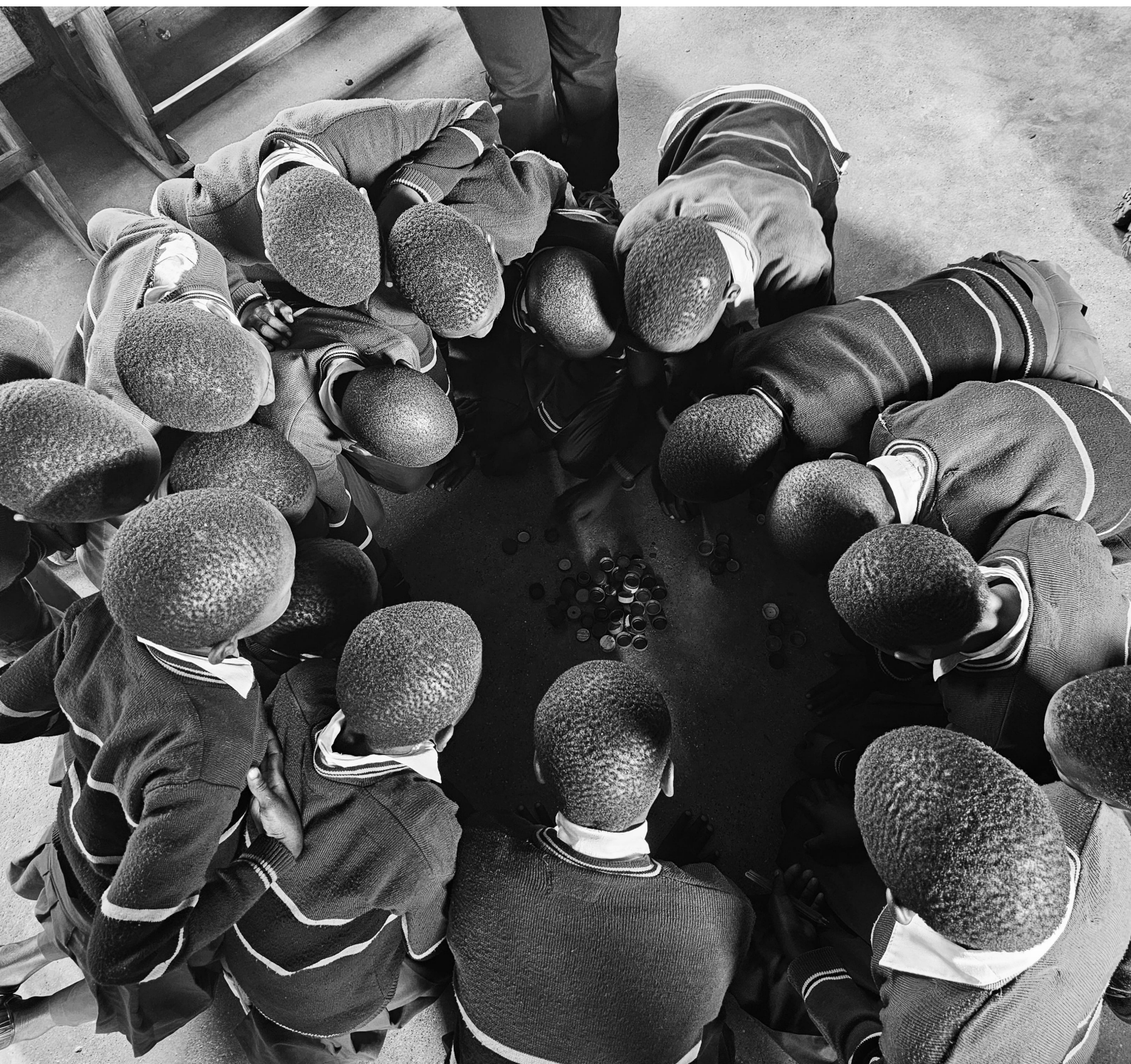
## Cost-Effectiveness Metrics

In addition to analyzing individual skill-specific outcomes, we also construct composite measures of the fundamental learning skills by examining average numeracy and literacy scores. This allows us to capture broader improvements in foundational learning rather than focusing solely on single item.

Cost-effectiveness is assessed using multiple complementary metrics. First, we calculate the cost per beneficiary to provide a benchmark for the overall resource intensity of the intervention. Second, we estimate the cost per one-standard deviation (SD) improvement (with respect to the control group) in literacy and numeracy proficiency, which facilitates comparison across outcomes that are measured on different scales. Third, to enhance comparability with

existing evidence from the education and development literature, we compute SD gains per USD 100 spent. This metric is commonly used in evaluations of education interventions in low- and middle-income countries and enables direct comparison of learning gains relative to program costs.

All cost-effectiveness estimates are reported separately by district to account for variation in implementation contexts, program intensity, and unit costs. We also present aggregated results for Tanzania and Nepal to provide an overall assessment of program performance at the country level and facilitate the cross country comparison. Together, these measures offer a comprehensive evaluation of the efficiency with which the My Village learning camps translate financial inputs into learning outcomes across different settings.



# 5. Results

## Costs

Using an ingredients-based costing methodology, programme costs were estimated based on actual financial expenditures and reported in 2022 US dollars. At the national level, the average financial cost per participant was:



These figures represent the actual cost of delivering the programme per child during implementation.

For comparison with international evidence, these costs are subsequently converted into constant 2011 US dollars, which are used in the cost-effectiveness analysis presented below. Table 2 presents total costs and per-beneficiary costs of the My Village learning camps by country and district, disaggregated into start-up, fixed, and variable cost components. All costs are in real terms and reported in 2011 US dollars.

Overall, average total costs per beneficiary are similar across the two countries, at USD 13.7 in Tanzania and USD 10.7 in Nepal. Despite differences in delivery models and implementation contexts, this similarity suggests that comparable levels of resources were required to implement the program at scale in both settings. For comparison, government spending per pupil in Tanzania has been estimated at around 9.5 % of GDP per capita (approximately USD 90) in 2014, while in Nepal government spending per pupil was about 12.5 % of GDP per capita (approximately USD 110) in 2015 (World Bank, 2026). These benchmarks indicate that the per-child cost of the intervention represents only around 10–15 % of annual government spending per pupil in these contexts, indicating the relatively low financial cost of the program.

The composition of costs differs markedly by country, reflecting differences in delivery structures. Start-up costs per beneficiary are very small in both countries but are noticeably lower in Tanzania than in Nepal, averaging USD 0.11 compared with USD 0.39 in Nepal. This difference could be driven by Tanzania's school-led model, which relies on existing government

school infrastructure and administrative systems, therefore reducing initial investments in community mobilization, set-up, and materials development. In contrast, the community-led model in Nepal required higher up-front investments to establish partnerships with local organizations, obtain approvals from local governments, and set up learning spaces, particularly in Makwanpur.

Fixed costs per beneficiary are broadly comparable across countries, averaging USD 5.64 in Tanzania and USD 4.78 in Nepal. These costs include village mapping, program management and monitoring, and core materials, and show relatively limited variation across districts. This suggests that fixed program inputs scale proportionally with participant numbers in both delivery models, although fixed costs are somewhat higher in one of Nepali districts, Makwanpur.

In contrast, variable costs differ more substantially across countries and districts. Average variable costs per beneficiary are higher in Tanzania (USD 7.95) than in Nepal (USD 5.50). This reflects higher recurrent costs associated with the school-based model in Tanzania, including facilitation, supervision, and logistics. Within Tanzania, Ludewa stands out with particularly high variable costs (USD 10.84 per beneficiary), likely reflecting its greater remoteness and associated transport and implementation challenges.

By comparison, Nepal's lower average variable costs suggest greater potential efficiency gains from scale-up. Because the community-led model relies more heavily on local volunteers and flexible delivery arrangements, marginal costs per additional beneficiary are lower in most districts, particularly in Sarlahi and Surkhet. This implies that, as program scale increases, average costs in Nepal may decline more rapidly than in Tanzania.

Overall, these results highlight that while overall per-beneficiary costs are similar across the two countries, the underlying cost structures differ in ways that have important implications for scalability and cost-effectiveness. Tanzania's school-led model benefits from low start-up costs but faces higher variable costs, whereas Nepal's community-led model involves higher initial investments but lower marginal costs, making it potentially more cost-efficient at larger scale.

|                     | Tanzania |          |        |        | Nepal   |         |         |           |
|---------------------|----------|----------|--------|--------|---------|---------|---------|-----------|
|                     | Total    | Kisarawe | Ludewa | Gairo  | Total   | Sarlahi | Surkhet | Makwanpur |
| No. of participants | 7,918    | 2,444    | 2,530  | 2,944  | 11,979  | 6,017   | 3,882   | 2,469     |
| Total startup cost  | 908.75   | 279.65   | 311.73 | 317.36 | 4,849   | 2,348   | 1,367   | 1,133     |
| Avg. startup cost   | 0.11     | 0.11     | 0.12   | 0.11   | 0.39    | 0.39    | 0.35    | 0.46      |
| Total fixed cost    | 44,619   | 13,739   | 14,390 | 16,489 | 59,110  | 25,349  | 19,049  | 14,711    |
| Avg. fixed cost     | 5.64     | 5.62     | 5.69   | 5.60   | 4.78    | 4.21    | 4.91    | 5.96      |
| Total variable cost | 62,972   | 17,127   | 14,390 | 18,423 | 68,026  | 33,243  | 17,425  | 17,358    |
| Avg. variable cost  | 7.95     | 7.01     | 10.84  | 6.26   | 5.50    | 5.52    | 4.49    | 7.03      |
| Total cost          | 108,500  | 31,146   | 42,125 | 35,229 | 131,984 | 60,941  | 17,425  | 33,202    |
| Avg. cost           | 13.70    | 12.74    | 16.65  | 11.97  | 10.67   | 10.13   | 9.75    | 13.45     |

Table 2. Data on cost of My Village learning camps (USD\$)

## Effectiveness

Table 4 shows estimates of the impact of the My Village learning camps on children's foundational literacy and numeracy skills, using a Difference-in-Differences (DiD) approach with entropy balancing weights. Outcomes are expressed as changes in standard deviation units between baseline and endline, allowing for comparison across skills, districts, and countries. We also report percentage point changes in the grouped outcome variables<sup>3</sup>, which are presented in the appendix.

Overall, the results indicate positive learning gains in both Tanzania and Nepal, though the magnitude and distribution of impacts differ substantially across contexts and skill levels. On average, learning gains are substantially larger in Nepal than in Tanzania, particularly for more advanced numeracy and literacy skills.

### Numeracy Outcomes

In Nepal, the learning camps generated large and statistically significant improvements across most numeracy outcomes. Average numeracy scores increased by 0.485 standard deviations, with particularly strong gains in more advanced skills such as two-digit multiplication, division with remainders, and word problems. Many of these improvements exceed 0.5 standard deviations, especially in Sarlahi. These findings suggest that the learning camps were effective

not only in strengthening foundational numeracy skills but also in enabling students to progress to more advanced levels along the learning continuum.

In Tanzania, the impacts on numeracy are smaller but still positive for several skills. Statistically significant improvements are observed for foundational and intermediate skills, including no-borrow subtraction, single-digit multiplication, single-digit division, and carry-over addition. The average numeracy score increases by 0.106 standard deviations overall. However, impacts on more advanced numeracy skills, such as two-digit multiplication and division with remainders, are generally small and statistically insignificant. This pattern suggests that while the camps improved foundational numeracy skills, their effectiveness in advancing higher-level numeracy was more limited.

### Literacy Outcomes

Literacy outcomes show the similar patterns. In Nepal, the program produced large and statistically significant improvements across most reading measures. Average literacy scores increased by 0.529 standard deviations, with particularly strong gains in reading paragraphs and stories. In Sarlahi, improvements exceed 0.7 standard deviations for these outcomes, indicating substantial progress in reading fluency and comprehension among participating children.

<sup>3</sup> Outcome indicators are grouped into four categories for numeracy and literacy, respectively, and are defined as achieving at least one skill within each category. "All numeracy (or literacy) skills" indicates that a child achieved all four categories.

In Tanzania, literacy impacts are positive but smaller in magnitude. The average literacy score increases by 0.081 standard deviations, with statistically significant gains observed in reading words, reading paragraphs, and reading stories. While the program contributed to improvements in reading skills, the magnitude of these effects is considerably smaller than those observed in Nepal.

### **District-Level Heterogeneity**

Across both countries, the results suggest substantial within-country variation in learning impacts. In Tanzania, Ludewa generally shows the strongest numeracy improvements, particularly for intermediate skills such as subtraction and multiplication, while Gairo shows the largest gains in literacy outcomes. In contrast, impacts in Kisarawe are generally weaker and occasionally negative for some numeracy skills (not statistically significant).

In Nepal, Sarlahi consistently demonstrates the largest learning gains across both numeracy and literacy outcomes. Improvements in several numeracy skills exceed 0.5 standard deviations, and literacy gains approach 0.8 standard deviations for reading stories. Makwanpur experiences moderate improvements, with most skills showing no statistically significant changes. In contrast, Surkhet displays more mixed results, with strong gains in some numeracy and literacy skills but weaker improvements in others.

Overall, the effectiveness results suggest that while the My Village learning camps improved foundational learning outcomes in both countries, the magnitude of impacts is considerably larger in Nepal, particularly for advanced skills. The findings also highlight significant district-level variation, with Ludewa in Tanzania and Sarlahi in Nepal emerging as high-performing contexts. These patterns have important implications for the subsequent cost-effectiveness analysis, as they indicate that program impacts, and therefore value for money, vary not only by delivery model but also by local implementation conditions.

It is important to interpret these cross-country differences in light of baseline learning levels. Descriptive statistics indicate that children in Tanzania started from relatively higher baseline proficiency levels compared to children in Nepal. This implies that there was less scope for large measurable improvements, particularly for foundational skills, as some children were already closer to proficiency thresholds. In contrast, lower baseline learning levels in Nepal provided greater room for improvement, allowing larger gains to be observed over the course of the intervention. As a result, the comparatively smaller effect sizes observed in Tanzania should not be interpreted solely as lower programme effectiveness, but also as reflecting differences in initial learning

conditions and the presence of ceiling effects in some skill domains.

While outcomes are reported in standard deviation units to allow comparability across skills and contexts, these results correspond to meaningful improvements in children's learning. In practice, this means that a substantially higher proportion of children are able to perform foundational tasks such as basic arithmetic operations and reading simple texts after the intervention. To complement the standard deviation estimates, Appendix Table A.7 presents impacts in percentage-point terms based on children achieving key proficiency thresholds. These results help illustrate the practical meaning of the programme effects. In Nepal, participation in learning camps increased the proportion of children achieving all numeracy skills by 18.8 percentage points and all literacy skills by 31.7 percentage points. Gains were especially strong for reading paragraphs (+28.9 pp) and reading stories (+31.4 pp). In Tanzania, proficiency gains were more modest but still meaningful in several domains, including multiplication and division (+15.4 pp), all numeracy skills (+9.6 pp), and overall literacy (+4.1 pp). These findings confirm that the learning camps improved not only average test performance, but also the share of children reaching foundational competency benchmarks.



| Outcome Indicator     | Tanzania |          |          |          | Nepal    |          |         |           |
|-----------------------|----------|----------|----------|----------|----------|----------|---------|-----------|
|                       | Total    | Kisarawe | Ludewa   | Gairo    | Total    | Sarlahi  | Surkhet | Makwanpur |
| One-digit Rec.        | 0.055    | -0.016   | 0.016    | 0.139    | 0.012    | -0.090   | 0.108   | 0.125     |
| Two-digit Rec.        | 0.017    | -0.066   | -0.053   | 0.191**  | 0.238*** | 0.133    | 0.275   | 0.342**   |
| No-carry Addition     | 0.086*   | -0.023   | 0.122    | 0.154    | 0.335*** | 0.402*** | -0.015  | 0.213     |
| No-borrow Subtraction | 0.160*** | 0.053    | 0.195**  | 0.232**  | 0.367*** | 0.439*** | 0.099   | 0.081     |
| Single-digit Mult.    | 0.274*** | 0.315*** | 0.361*** | 0.081    | 0.366*** | 0.470*** | -0.159  | 0.117     |
| Single-digit Div.     | 0.190*** | 0.188**  | 0.290*** | 0.074    | 0.445*** | 0.579*** | 0.531** | -0.155    |
| Carry-over Addition   | 0.079**  | 0.063    | 0.143    | -0.038   | 0.408*** | 0.526*** | 0.065   | -0.013    |
| Borrow Subtraction    | 0.014    | -0.083   | 0.083    | -0.045   | 0.491*** | 0.574*** | 0.392*  | -0.069    |
| 2x1 Mult.             | 0.017    | -0.051   | 0.114    | -0.078   | 0.509*** | 0.525*** | 0.552** | 0.051     |
| 2x1 Div. w/ Rem.      | -0.025   | -0.109   | 0.008    | 0.009    | 0.519*** | 0.593*** | 0.107   | 0.103     |
| WP: Subtraction       | 0.058    | 0.169**  | 0.030    | -0.017   | 0.420*** | 0.463*** | 0.141   | 0.112     |
| WP: Division          | -0.045   | -0.033   | -0.132   | 0.002    | 0.543*** | 0.572*** | 0.384   | 0.257     |
| Avg. numeracy score   | 0.106*** | 0.058    | 0.146**  | 0.075    | 0.485*** | 0.545*** | 0.252*  | 0.117     |
| Identifying letters   | 0.015    | -0.009   | -0.078   | 0.164*   | 0.052    | -0.001   | -0.070  | 0.151     |
| Reading words         | 0.076*   | 0.043    | -0.022   | 0.258*** | 0.369*** | 0.407*** | -0.036  | 0.240*    |
| Reading paragraph     | 0.085*   | 0.051    | 0.148*   | 0.187**  | 0.616*** | 0.774*** | 0.046   | 0.074     |
| Reading story         | 0.091*   | 0.144*   | 0.110    | 0.004    | 0.711*** | 0.794*** | 0.538** | 0.131     |
| Avg. literacy score   | 0.081**  | 0.072    | 0.058    | 0.172**  | 0.529*** | 0.599*** | 0.141   | 0.179     |
| Sample size           | 4,680    | 1,938    | 1,440    | 1,302    | 3,224    | 2,410    | 372     | 440       |

\*, \*\*, and \*\*\* represent significance at the 10%, 5% and 1% level, respectively.

### 3. Impact of My Village learning camps (change in standard deviation)

## Cost-Effectiveness

This section combines the cost and effectiveness results to assess the cost-effectiveness of the My Village learning camps, measured as additional standard deviation gains per USD 100 spent. Table 4 presents cost-effectiveness estimates by country and district for average numeracy and literacy scores, while Figure 1 compares these estimates to other foundational learning interventions documented in the literature. Cost-effectiveness was calculated as the additional standard deviation gain per USD 100 invested.

### Cross-Country Comparison

The results show substantial differences in cost-effectiveness across countries, closely mirroring the patterns observed in learning impacts.

Overall, the My Village learning camps are considerably more cost-effective in Nepal than in Tanzania for both numeracy and literacy outcomes. At the national level, each USD 100 invested in Nepal generates learning gains of 4.55 standard deviations in numeracy and 4.96 standard deviations in literacy, compared to 0.77 and 0.59 standard deviations, respectively, in Tanzania.

These differences reflect the combination of much larger learning gains and somewhat lower per-beneficiary costs in Nepal. While the average cost per participant is broadly comparable across countries, the substantially larger improvements in learning outcomes observed in Nepal translate into much higher cost-effectiveness. In contrast, the more modest learning gains observed in Tanzania, particularly for advanced skills, result in lower overall returns per dollar spent.

## Within-Country Variation

There is also considerable heterogeneity in cost-effectiveness within each country, suggesting the importance of local implementation conditions. In Tanzania, Ludewa stands out as the most cost-effective district for numeracy, generating 0.88 standard deviations of improvement per USD 100 invested. Gairo shows the strongest literacy cost-effectiveness in the country, with gains of 1.44 standard deviations per USD 100. In contrast, Kisarawe performs relatively poorly, with smaller and statistically insignificant estimates for numeracy and more modest literacy gains.

In Nepal, cost-effectiveness is highest in Sarlahi, where each USD 100 invested generates approximately 5.38 standard deviations of improvement in numeracy and 5.91 standard deviations in literacy, both statistically significant at the 1% level. Surkhet also demonstrates strong numeracy cost-effectiveness, though literacy gains are smaller and not statistically significant. Makwanpur shows moderate but positive cost-effectiveness estimates across both numeracy and literacy outcomes. Despite this variation, districts in Nepal consistently outperform those in Tanzania, highlighting the relatively strong performance of the community-led delivery model in this context.

| Metric              | Tanzania |          |          |         | Nepal    |          |         |           |
|---------------------|----------|----------|----------|---------|----------|----------|---------|-----------|
|                     | Total    | Kisarawe | Ludewa   | Gairo   | Total    | Sarlahi  | Surkhet | Makwanpur |
| Avg. numeracy score | 0.774**  | 0.455    | 0.877*** | 0.627   | 4.545*** | 5.381*** | 2.585*  | 0.870     |
| Avg. literacy score | 0.591**  | 0.565    | 0.348    | 1.437** | 4.957*** | 5.914*** | 1.446   | 1.331     |

\*, \*\*, and \*\*\* represent significance at the 10%, 5% and 1% level, respectively.

Table 4. Cost-effectiveness of My Village learning camps (additional standard deviation per \$100)

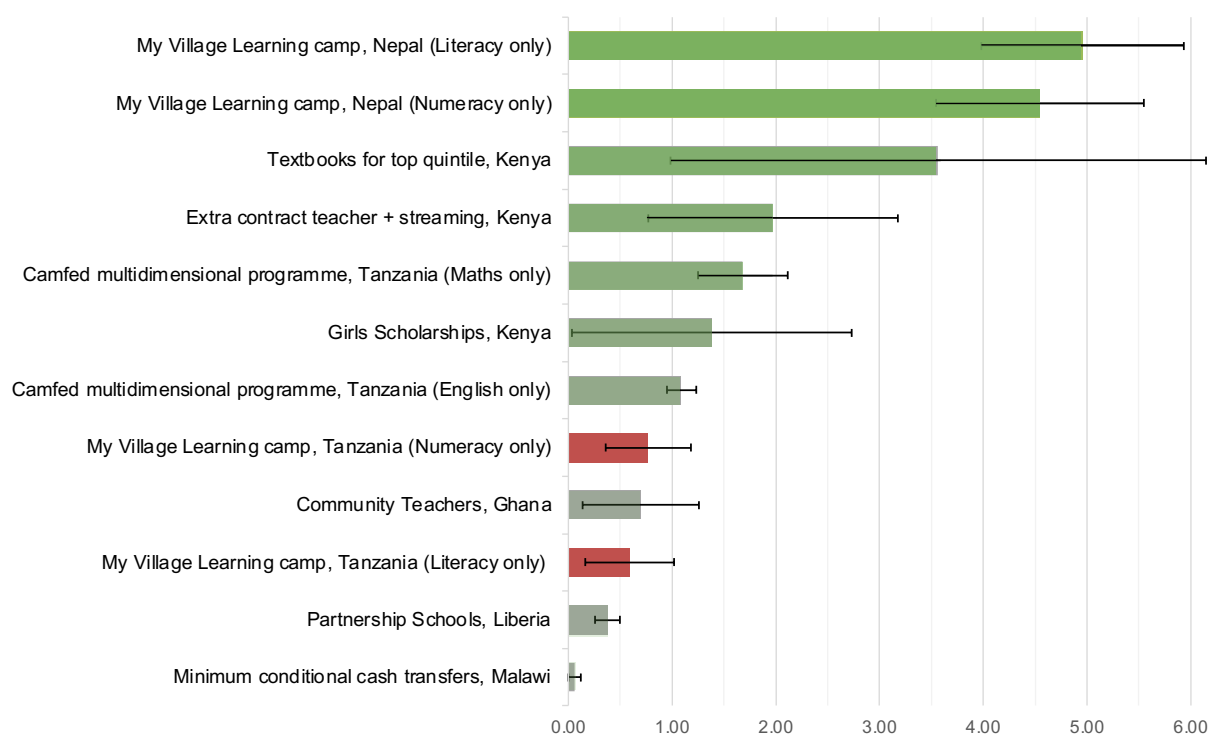


## Comparison with Other Educational Interventions

Figure 1. Comparison of the cost-effectiveness of My Village learning camps with other related educational interventions (additional standard deviation per \$100) compares the cost-effectiveness of the My Village learning camps with a set of other education interventions drawn from the literature, using harmonised metrics of learning gains per USD 100 spent. The comparison draws on published cost-effectiveness estimates from studies such as Sabates et al., (2021), with full references provided below. The results indicate that the My Village learning camps implemented in Nepal rank among the most cost-effective interventions, generating substantially larger learning gains per dollar invested than many widely cited programs. In contrast, the implementation in Tanzania falls toward the lower end of the distribution,

reflecting the more modest learning gains observed in that context.

This comparison suggests that delivery modality and context matter as much as pedagogy in determining value for money. Even when applying the same TaRL-based approach, differences in institutional arrangements, cost structures, and local constraints can lead to large differences in cost-effectiveness.



Sources: Dhaliwal et al., (2013), Duflo & Kiessel (2014), Roberts et al., (2007); Sabates et al., (2021)

Figure 1. Comparison of the cost-effectiveness of My Village learning camps with other related educational interventions (additional standard deviation per \$100)



# 6. Discussion

This report provides new evidence on the costs, impacts, and cost-effectiveness of My Village learning camps implemented through different delivery models in rural Tanzania and Nepal. Our results show substantial learning gains at relatively low cost, but also reveal important variation by country, district, and delivery context, with clear implications for equity and scalability.

One of the important findings is that the community-led model in Nepal achieves larger learning gains and higher cost-effectiveness than the school-led model in Tanzania, despite broadly similar per-beneficiary costs. This difference reflects both higher impacts and lower marginal costs in Nepal, particularly for advanced literacy and numeracy skills. The reliance on community volunteers, flexible scheduling, and locally embedded learning spaces appears to have enabled more intensive engagement with children who are often poorly served by formal schooling.

By contrast, Tanzania's school-led model benefits from lower start-up costs due to its reliance on existing infrastructure and government systems, but exhibits higher variable costs and more modest learning gains, especially for advanced skills. This suggests that while school-based delivery may be administratively efficient, it may face constraints related to teacher availability, competing school demands, and limited instructional time, which can affect effectiveness in short-duration interventions.

Importantly, these differences should not be interpreted as evidence that one delivery model is universally superior. Rather, they highlight how institutional capacity, governance arrangements, and local constraints shape both implementation and outcomes, even under a common pedagogical framework.

The district-level results highlight substantial within-country variation in both effectiveness and cost-effectiveness, indicating the importance of local context. In Nepal, Sarlahi tends to be the most cost-effective district, combining strong learning gains with relatively low delivery costs. Although physically accessible, children in Sarlahi face deep social and economic marginalization, suggesting that community-

led learning camps are particularly effective where barriers to learning are primarily social rather than geographic. Makwanpur shows moderate but positive learning gains, although many skill-level estimates are not statistically significant, while Surkhet displays more mixed results, with strong improvements in some numeracy skills but weaker or insignificant gains in others. These patterns suggest that geographic dispersion, migration, and unstable livelihoods may affect attendance and learning continuity in some settings.

In Tanzania, Ludewa stands out as the most cost-effective district, with stronger learning gains despite higher variable costs associated with remoteness. This suggests that learning camps can be effective in hard-to-reach settings when implementation is strong. In contrast, Kisarawe shows weaker and occasionally negative impacts for some numeracy skills, while Gairo demonstrates stronger literacy gains relative to other districts. Overall, these patterns indicate that district-level institutional capacity, geographic constraints, and socio-economic conditions play an important role in shaping program outcomes.

The results also suggest clear equity-efficiency trade-offs. Districts that are more accessible and have higher baseline learning levels, such as Sarlahi in Nepal, tend to deliver higher measured cost-effectiveness. In contrast, reaching more remote or unstable populations, such as Surkhet, involves higher costs and yields smaller learning gains, reducing cost-effectiveness as measured by standard metrics. However, lower cost-effectiveness does not imply lower social value. Interventions targeting the most disadvantaged learners may appear less efficient in narrow VfM terms, but they are essential for reducing learning inequalities and fulfilling equity objectives. These findings reinforce the need for decision-makers to interpret CEA results alongside explicit equity considerations, rather than relying solely on average cost-effectiveness rankings.

Overall, our findings suggest that delivery modality and context matter as much as pedagogy in determining value for money. Even when applying the same TaRL-based approach, differences in institutional arrangements, cost structures, and local constraints lead to large variation in impacts and efficiency. This indicates the importance of conducting CEAs that explicitly compare delivery models and account for

# 7. Conclusion

This report examined the costs, learning impacts, and cost-effectiveness of the My Village learning camps implemented in rural Tanzania and Nepal under two distinct delivery models. There are three main findings:

First, the learning camps generated meaningful improvements in foundational literacy and numeracy in both countries, with substantially larger gains observed in Nepal, particularly for advanced skills. These results confirm the effectiveness of TaRL-based accelerated learning approaches in improving foundational learning among rural and marginalized children.

Second, while average per-beneficiary costs are similar across countries, underlying cost structures differ markedly. Tanzania's school-led model benefits from low start-up costs but higher variable costs, whereas Nepal's community-led model involves higher initial investments but lower marginal costs, making it more conducive to efficiency gains at scale.

Third, combining costs and impacts reveals substantial variation in cost-effectiveness across countries and districts. The community-led model in Nepal is considerably more cost-effective overall, with particularly strong performance in Sarlahi, while Ludewa and Gairo are the strongest-performing districts in Tanzania for numeracy and literacy, respectively. At the same time, results from districts such as Makwanpur and Kisarawe highlight the challenges of delivering cost-effective interventions in more remote or fragile contexts.

These findings have several implications for funders and policymakers. Decisions about scaling foundational learning interventions should consider not only average impacts and costs, but also how delivery models interact with local contexts, and how equity objectives shape acceptable trade-offs between efficiency and reach. Community-led approaches may offer particular advantages in settings where formal school systems struggle to engage marginalized learners, while school-led models may remain appropriate where institutional capacity is stronger.

This report also has its limitations. Opportunity costs could not be captured due to data constraints, and costs

could not be linked to individual children or specific camps. Moreover, comparisons across delivery models reflect differences in national context and should not be interpreted as causal estimates of delivery model effectiveness. Future phases of My Village could strengthen CEA by collecting more detailed cost data, tracking opportunity costs, and experimenting with hybrid delivery models.

Looking ahead, Phases II and III of My Village offer an opportunity to refine delivery strategies, test adaptations in more challenging contexts, and generate richer evidence on how cost-effectiveness evolves with scale. Further research should also explore longer-term learning persistence and the interaction between accelerated learning programs and formal schooling systems. Together, such evidence can help inform more cost-effective, equitable, and context-sensitive approaches to strengthening foundational



# 8. References

- Alcott, B., Rose, P., Sabates, R., & Torres, R. (2018). Measuring equity for national education planning. In C.-L. Chien & F. Huebler (Eds.), In: Chien, C-L and Huebler, F, (eds.) Handbook on Measurement of Equity in Education. (Pp. 80-107). UNESCO Institute for Statistics: Montreal, Canada. (2018) (pp. 80–107). UNESCO Institute for Statistics. <http://uis.unesco.org/sites/default/files/documents/handbook-measuring-equity-education-2018-en.pdf>
- Angrist, N., Evans, D., Filmer, D. P., Glennerster, R., Rogers, F. H., & Sabarwal, S. (2020). How to Improve Education Outcomes Most Efficiently ? A Comparison of 150 Interventions Using the New Learning-Adjusted Years of Schooling Metric. Policy Research Working Paper Series, Policy Research Working Paper Series, Article 9450. <https://ideas.repec.org/p/wbk/wbrwps/9450.html>
- Banerjee, A., Banerji, R., Berry, J., Duflo, E., Kannan, H., Mukherji, S., Shotland, M., & Walton, M. (2016). Mainstreaming an Effective Intervention: Evidence from Randomized Evaluations of “Teaching at the Right Level” in India (Working Paper 22746). National Bureau of Economic Research. <https://doi.org/10.3386/w22746>
- Banerjee, A. V., Banerji, R., Duflo, E., Glennerster, R., & Khemani, S. (2010). Pitfalls of Participatory Programs: Evidence from a Randomized Evaluation in Education in India. *American Economic Journal: Economic Policy*, 2(1), 1–30. <https://doi.org/10.1257/pol.2.1.1>
- Boardman, A. E., Greenberg, D. H., Vining, A. R., & Weimer, D. L. (2018). *Cost-Benefit Analysis: Concepts and Practice*. Cambridge University Press.
- Dhaliwal, I., Duflo, E., Glennerster, R., & Tulloch, C. (2013). Comparative Cost-Effectiveness Analysis to Inform Policy in Developing Countries: A General Framework with Applications for Education. In P. Glewwe (Ed.), *Education Policy in Developing Countries* (pp. 285–338). University of Chicago Press. [https://www.degruyterbrill.com/document/doi/10.7208/9780226078854-008/html?lang=en&srsitid=AfmBOor\\_r0W3e5RguMImk-Q4e-\\_UE9cl7WsOIEw\\_fq8NVt26gBBkAGsi](https://www.degruyterbrill.com/document/doi/10.7208/9780226078854-008/html?lang=en&srsitid=AfmBOor_r0W3e5RguMImk-Q4e-_UE9cl7WsOIEw_fq8NVt26gBBkAGsi)
- Duflo, A., Kiessel, J., & Lucas, A. M. (2024). Experimental Evidence on Four Policies to Increase Learning at Scale. *The Economic Journal*, 134(661), 1985–2008. <https://doi.org/10.1093/ej/ueae003>
- Duflo, E., Dupas, P., & Kremer, M. (2011). Peer Effects, Teacher Incentives, and the Impact of Tracking: Evidence from a Randomized Evaluation in Kenya. *American Economic Review*, 101(5), 1739–1774. <https://doi.org/10.1257/aer.101.5.1739>
- Evans, D. K., & Yuan, F. (2022). What We Learn about Girls' Education from Interventions That Do Not Focus on Girls. *The World Bank Economic Review*, 36(1), 244–267. <https://doi.org/10.1093/wber/lhab007>
- GEM Report UNESCO. (2022). Spotlight Report on basic education completion and foundational learning in Africa 2022. GEM Report UNESCO. <https://doi.org/10.54676/NOZJ6491>
- Hainmueller, J. (2012). Entropy Balancing for Causal Effects: A Multivariate Reweighting Method to Produce Balanced Samples in Observational Studies. *Political Analysis*, 20(1), 25–46. <https://doi.org/10.1093/pan/mpr025>
- Ismail, I., Qadriati, Jhora, F., & Yorianda, A. (2024). Teaching at the Right Level (TaRL) as a Potential Solution for Improving Middle School Education: A Systematic Review of the Literature. 8, 126–138. <https://doi.org/10.5281/zenodo.11240915>
- J-PAL. (2020). Conducting cost-effectiveness analysis (CEA). The Abdul Latif Jameel Poverty Action Lab (J-PAL). <https://www.povertyactionlab.org/resource/conducting-cost-effectiveness-analysis-cea>
- Kremer, M., Brannen, C., & Glennerster, R. (2013). The Challenge of Education and Learning in the Developing World. *Science*, 340(6130), 297–300. <https://doi.org/10.1126/science.1235350>
- Levin, H. M., McEwan, P. J., Belfield, C., Bowden, A. B., & Shand, R. (2018). *Economic Evaluation in Education: Cost-Effectiveness and Benefit-Cost Analysis*. SAGE Publications, Inc. <https://doi.org/10.4135/9781483396514>
- McEwan, P. J. (2015). Improving Learning in Primary Schools of Developing Countries: A Meta-Analysis of Randomized Experiments. *Review of Educational Research*, 85(3), 353–394. <https://doi.org/10.3102/0034654314553127>

Pritchett, L. (2015). Creating Education Systems Coherent for Learning Outcomes: Making the Transition from Schooling to Learning.

Snilstveit, B., Stevenson, J., Menon, R., Phillips, D., Gallagher, E., Geleen, M., Jobse, H., Schmidt, T., & Jimenez, E. (2016). The impact of education programmes on learning and school participation in low- and middle-income countries (2016th ed.). International Initiative for Impact Evaluation (3ie). <https://doi.org/10.23846/SRS007>

The Strategic Impact Evaluation Fund (SIEF). (2023). Cost Measurement [Text/HTML]. World Bank. <https://www.worldbank.org/en/programs/sief-trust-fund/brief/cost-measurement>

Vivalt, E. (2020). How Much Can We Generalize From Impact Evaluations? *Journal of the European Economic Association*, 18(6), 3045–3089. <https://doi.org/10.1093/jeea/jvaa019>

World Bank. (2018). *World Development Report 2018: Learning to Realize Education's Promise*. Washington, DC: World Bank. <https://doi.org/10.1596/978-1-4648-1096-1>

World Bank. (2026). World Bank Open Data. World Bank Open Data. <https://data.worldbank.org>



# 9. Appendix

Table A. 1. Balance statistics for covariates without weighting, Tanzania

|                                     |                        | Treatment group |                 |                 | Control group |                 |                 |
|-------------------------------------|------------------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|
|                                     |                        | <i>mean</i>     | <i>variance</i> | <i>skewness</i> | <i>mean</i>   | <i>variance</i> | <i>skewness</i> |
| <b>Female</b>                       |                        | .539            | .249            | -.155           | .491          | .250            | .034            |
| <b>Age</b>                          | <i>10-13 year olds</i> | .420            | .244            | .324            | .326          | .220            | .745            |
|                                     | <i>14-18 year olds</i> | .050            | .038            | 4.73            | .088          | .081            | 2.90            |
| <b>Disability</b>                   |                        | .009            | .009            | 10.2            | .019          | .018            | 7.09            |
| <b>Wealth quartile</b>              | <i>Q2</i>              | .280            | .202            | .982            | .324          | .219            | .752            |
|                                     | <i>Q4</i>              | .266            | .195            | 1.06            | .198          | .159            | 1.52            |
|                                     | <i>Q4</i>              | .168            | .140            | 1.78            | .176          | .145            | 1.70            |
| <b>HH member completed HS</b>       | <i>Yes</i>             | .765            | .180            | -1.25           | .806          | .157            | -1.55           |
|                                     | <i>Missing</i>         | .002            | .002            | 23.0            | .002          | .002            | 25.2            |
| <b>Type of school</b>               | <i>Government</i>      | .908            | .084            | -2.82           | .784          | .170            | -1.38           |
|                                     | <i>Private</i>         | .005            | .005            | 14.5            | .007          | .007            | 11.8            |
|                                     | <i>Other</i>           | 0               | 0               | .               | .002          | .002            | 25.2            |
|                                     | <i>Missing</i>         | 0               | 0               | .               | .001          | .001            | 35.7            |
| <b>Paid tuition class</b>           | <i>Yes</i>             | .025            | .025            | 6.03            | .031          | .030            | 5.38            |
| <b>Speak local language at home</b> | <i>Yes</i>             | .127            | .111            | 2.24            | .101          | .091            | 2.65            |
| <b>Average numeracy score</b>       |                        | 35.1            | 689             | .558            | 31.9          | 968             | .724            |
| <b>Average literacy score</b>       |                        | 50.8            | 1360            | .136            | 41.0          | 1533            | .488            |

Table A. 2. Balance statistics for covariates with entropy balancing weights, Tanzania

|                                     |                        | Treatment group |                 |                 | Control group |                 |                 |
|-------------------------------------|------------------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|
|                                     |                        | <i>mean</i>     | <i>variance</i> | <i>skewness</i> | <i>mean</i>   | <i>variance</i> | <i>skewness</i> |
| <b>Female</b>                       |                        | .539            | .249            | -.155           | .539          | .249            | -.155           |
| <b>Age</b>                          | <i>10-13 year olds</i> | .420            | .244            | .324            | .420          | .244            | .324            |
|                                     | <i>14-18 year olds</i> | .050            | .038            | 4.73            | .040          | .038            | 4.73            |
| <b>Disability</b>                   |                        | .009            | .009            | 10.2            | .009          | .009            | 10.2            |
| <b>Wealth quartile</b>              | <i>Q2</i>              | .280            | .202            | .982            | .280          | .202            | .981            |
|                                     | <i>Q4</i>              | .266            | .195            | 1.06            | .266          | .195            | 1.06            |
|                                     | <i>Q4</i>              | .168            | .140            | 1.78            | .168          | .140            | 1.78            |
| <b>HH member completed HS</b>       | <i>Yes</i>             | .765            | .180            | -1.25           | .765          | .180            | -1.25           |
|                                     | <i>Missing</i>         | .002            | .002            | 23.0            | .002          | .002            | 23.0            |
| <b>Type of school</b>               | <i>Government</i>      | .908            | .084            | -2.82           | .908          | .084            | -2.82           |
|                                     | <i>Private</i>         | .005            | .005            | 14.5            | .005          | .005            | 14.5            |
|                                     | <i>Other</i>           | 0               | 0               | .               | .000          | .000            | 173             |
|                                     | <i>Missing</i>         | 0               | 0               | .               | .000          | .000            | 245             |
| <b>Paid tuition class</b>           | <i>Yes</i>             | .025            | .025            | 6.03            | .025          | .025            | 6.0             |
| <b>Speak local language at home</b> | <i>Yes</i>             | .127            | .111            | 2.24            | .127          | .111            | 2.24            |
| <b>Average numeracy score</b>       |                        | 35.1            | 689             | .558            | 35.1          | 689             | .559            |
| <b>Average literacy score</b>       |                        | 50.8            | 1360            | .136            | 50.8          | 1360            | .136            |

Table A. 3. Balance statistics for covariates without weighting, Nepal

|                                     |                        | Treatment group |                 |                 | Control group |                 |                 |
|-------------------------------------|------------------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|
|                                     |                        | <i>mean</i>     | <i>variance</i> | <i>skewness</i> | <i>mean</i>   | <i>variance</i> | <i>skewness</i> |
| <b>Female</b>                       |                        | .596            | .242            | -.393           | .486          | .250            | .058            |
| <b>Age</b>                          | <i>10-13 year olds</i> | .398            | .240            | .419            | .241          | .183            | 1.22            |
|                                     | <i>14-18 year olds</i> | .086            | .079            | 2.96            | .125          | .109            | 2.28            |
| <b>Disability</b>                   |                        | .009            | .009            | 10.3            | .016          | .015            | 7.83            |
| <b>Wealth quartile</b>              | <i>Q2</i>              | .422            | .245            | .316            | .404          | .241            | .39             |
|                                     | <i>Q4</i>              | .122            | .108            | 2.31            | .124          | .109            | 2.29            |
|                                     | <i>Q4</i>              | .058            | .055            | 3.78            | .045          | .043            | 4.38            |
| <b>HH member completed HS</b>       | <i>Yes</i>             | .128            | .112            | 2.22            | .123          | .108            | 2.30            |
|                                     | <i>Missing</i>         | .740            | .193            | -1.10           | .558          | .247            | -.234           |
| <b>Type of school</b>               | <i>Government</i>      | .223            | .174            | 1.33            | .281          | .202            | .975            |
|                                     | <i>Private</i>         | .003            | .003            | 18              | .015          | .015            | 8.04            |
|                                     | <i>Other</i>           | .541            | .249            | -.166           | .447          | .247            | .215            |
|                                     | <i>Missing</i>         | .789            | .167            | -1.42           | .563          | .246            | -.256           |
| <b>Paid tuition class</b>           | <i>Yes</i>             | 30.3            | 942             | .862            | 25.8          | 1068            | 1.09            |
| <b>Speak local language at home</b> | <i>Yes</i>             | 34.9            | 1094            | .819            | 27.9          | 1205            | 1.09            |
| <b>Average numeracy score</b>       |                        | .596            | .242            | -.393           | .486          | .250            | .058            |
| <b>Average literacy score</b>       |                        | .398            | .240            | .419            | .241          | .183            | 1.22            |

Table A. 4. Balance statistics for covariates with entropy balancing weights, Nepal

|                                     |                        | Treatment group |                 |                 | Control group |                 |                 |
|-------------------------------------|------------------------|-----------------|-----------------|-----------------|---------------|-----------------|-----------------|
|                                     |                        | <i>mean</i>     | <i>variance</i> | <i>skewness</i> | <i>mean</i>   | <i>variance</i> | <i>skewness</i> |
| <b>Female</b>                       |                        | .596            | .242            | -.393           | .596          | .241            | -.391           |
| <b>Age</b>                          | <i>10-13 year olds</i> | .398            | .240            | .419            | .398          | .240            | .417            |
|                                     | <i>14-18 year olds</i> | .086            | .079            | 2.96            | .086          | .078            | 2.96            |
| <b>Disability</b>                   |                        | .009            | .009            | 10.3            | .009          | .009            | 10.3            |
| <b>Wealth quartile</b>              | <i>Q2</i>              | .422            | .245            | .316            | .422          | .244            | .314            |
|                                     | <i>Q4</i>              | .122            | .108            | 2.31            | .123          | .108            | 2.30            |
|                                     | <i>Q4</i>              | .058            | .055            | 3.78            | .058          | .055            | 3.78            |
| <b>HH member completed HS</b>       | <i>Yes</i>             | .128            | .112            | 2.22            | .129          | .112            | 2.22            |
|                                     | <i>Missing</i>         | .740            | .193            | -1.10           | .739          | .193            | -1.09           |
| <b>Type of school</b>               | <i>Government</i>      | .223            | .174            | 1.33            | .224          | .174            | 1.33            |
|                                     | <i>Private</i>         | .003            | .003            | 18              | .003          | .003            | 18.0            |
|                                     | <i>Other</i>           | .541            | .249            | -.166           | .541          | .249            | -.165           |
|                                     | <i>Missing</i>         | .789            | .167            | -1.42           | .788          | .167            | -1.41           |
| <b>Paid tuition class</b>           | <i>Yes</i>             | 30.3            | 942             | .862            | 30.3          | 942             | .863            |
| <b>Speak local language at home</b> | <i>Yes</i>             | 34.9            | 1094            | .819            | 34.8          | 1094            | .821            |
| <b>Average numeracy score</b>       |                        | .596            | .242            | -.393           | .596          | .241            | -.391           |
| <b>Average literacy score</b>       |                        | .398            | .240            | .419            | .398          | .240            | .417            |

Table. A. 5. Balance statistics for covariates, Tanzania

|                              |            | Without weighting |         |             |            | With entropy balancing weights |         |             |
|------------------------------|------------|-------------------|---------|-------------|------------|--------------------------------|---------|-------------|
|                              | Difference | t-statistic       | p-value | Significant | Difference | t-statistic                    | p-value | Significant |
| Female                       | 0.047      | 2.28              | 0.0229  | Yes         | 0.000      | 0.00                           | 1.0000  | No          |
| Disability                   | -0.009     | -1.89             | 0.0595  | Marginal    | -0.000     | 0.00                           | 1.0000  | No          |
| Paid tuition class           | -0.006     | -0.84             | 0.3986  | No          | 0.000      | 0.00                           | 0.9970  | No          |
| Speak local language at home | -0.026     | -1.99             | 0.0463  | Yes         | 0.000      | 0.00                           | 0.9990  | No          |
| Average numeracy score       | 3.189      | 2.65              | 0.0082  | Yes         | 0.001      | 0.00                           | 0.9990  | No          |
| Average literacy score       | 9.818      | 6.20              | 0.0000  | Yes         | 0.002      | 0.00                           | 0.9990  | No          |
|                              |            |                   |         |             |            |                                |         |             |
|                              |            | F-test            | p-value | Significant |            | F-test                         | p-value | Significant |
| Age group                    |            | 0.02              | 0.898   | No          |            | 0.000                          | 0.9990  | No          |
| Wealth quartile              |            | 2.19              | 0.139   | No          |            | 0.000                          | 0.9960  | No          |
| School type                  |            | 50.41             | <0.001  | Yes         |            | 0.000                          | 0.9932  | No          |

Table. A. 6. Balance statistics for covariates, Nepal

|                              |            | Without weighting |         |             |            | With entropy balancing weights |         |             |
|------------------------------|------------|-------------------|---------|-------------|------------|--------------------------------|---------|-------------|
|                              | Difference | t-statistic       | p-value | Significant | Difference | t-statistic                    | p-value | Significant |
| Female                       | 0.111      | 3.60              | 0.0003  | Yes         | 0.000      | 0.01                           | 0.9883  | No          |
| Disability                   | -0.008     | -1.03             | 0.3051  | No          | -0.000     | 0.00                           | 0.9982  | No          |
| Paid tuition class           | 0.093      | 3.02              | 0.0026  | Yes         | 0.000      | 0.01                           | 0.9937  | No          |
| Speak local language at home | 0.226      | 7.59              | 0.0000  | Yes         | 0.001      | 0.02                           | 0.9820  | No          |
| Average numeracy score       | 4.404      | 2.20              | 0.0279  | Yes         | 0.017      | 0.01                           | 0.9932  | No          |
| Average literacy score       | 6.887      | 3.23              | 0.0013  | Yes         | 0.019      | 0.01                           | 0.9928  | No          |
|                              |            |                   |         |             |            |                                |         |             |
|                              |            | F-test            | p-value | Significant |            | F-test                         | p-value | Significant |
| Age group                    |            | 3.36              | 0.0669  | Marginal    |            | 0.000                          | 0.9848  | No          |
| Wealth quartile              |            | 1.10              | 0.2940  | No          |            | 0.001                          | 0.9772  | No          |
| School type                  |            | 0.71              | 0.4010  | No          |            | 0.000                          | 0.9850  | No          |

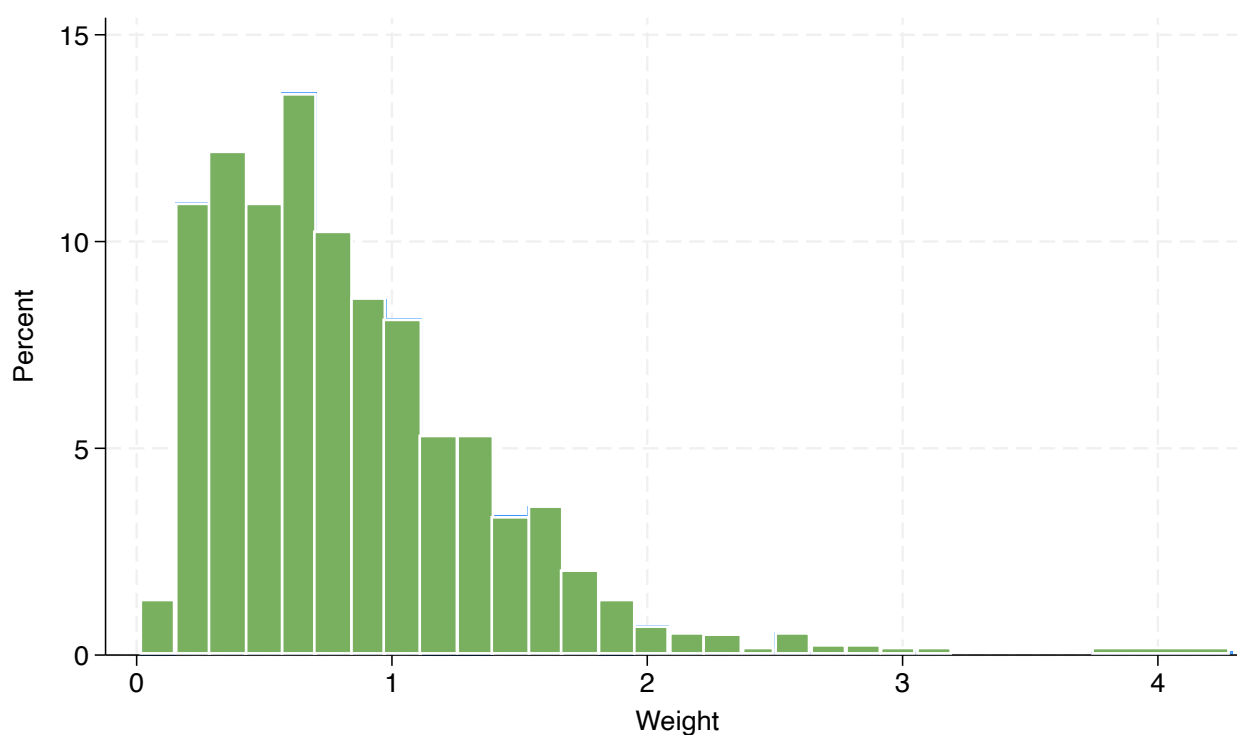


Figure A. 1. Distribution of Entropy Balancing Weights for the control group, Tanzania

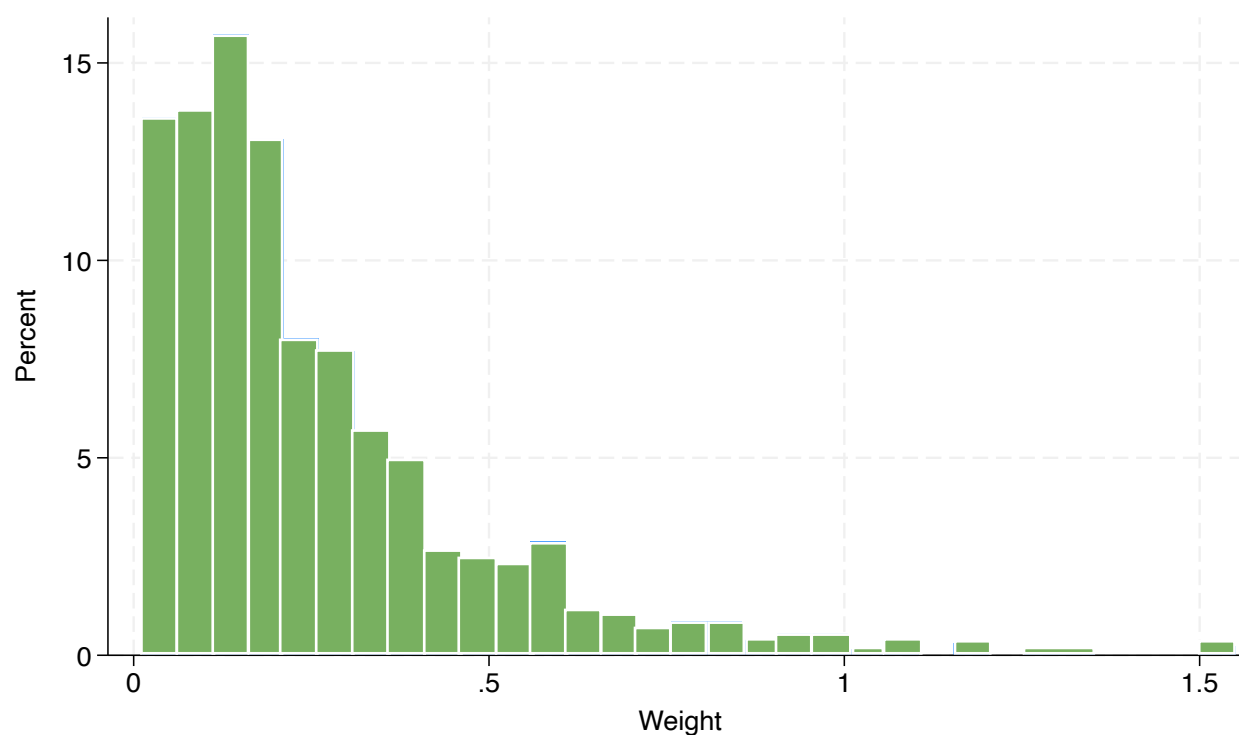


Figure A. 2. Distribution of Entropy Balancing Weights for the control group, Nepal

| Outcome Indicator           | Tanzania |          |          |          | Nepal    |          |          |           |
|-----------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
|                             | Total    | Kisarawe | Ludewa   | Gairo    | Total    | Sarlahi  | Surkhhet | Makwanpur |
| Recognition                 | 1.980    | -0.870   | 0.617    | 6.203*   | 0.347    | -4.151   | 3.710    | 6.183     |
| Addition and Substruction   | 4.833**  | -0.936   | 8.323**  | 7.970    | 17.01*** | 19.97*** | 3.160    | 7.378     |
| Multiplication and Division | 15.42*** | 16.60*** | 21.19*** | 5.839    | 16.75*** | 23.05*** | -11.26   | 2.341     |
| Word Problem                | 4.475*   | 8.700**  | 5.027    | -0.678   | 18.44*** | 20.30*** | 11.80    | 3.233     |
| All numeracy skills         | 9.628*** | 14.40*** | 11.38**  | 1.026    | 18.76*** | 19.43*** | 18.08*   | 6.375     |
| Identifying letters         | -0.00880 | -1.667   | -3.026   | 7.632*   | 4.496    | 1.931    | -2.970   | 10.71     |
| Reading words               | 4.192**  | 2.734    | -0.902   | 12.41*** | 17.69*** | 19.74*** | -1.530   | 10.90     |
| Reading paragraph           | 4.185*   | 2.530    | 7.226*   | 9.345**  | 28.94*** | 36.34*** | 2.150    | 3.485     |
| Reading story               | 4.413*   | 7.102*   | 5.289    | 0.178    | 31.39*** | 35.02*** | 23.75**  | 5.771     |
| All literacy skills         | 4.055*   | 7.100*   | 4.463    | -0.127   | 31.65*** | 34.82*** | 23.75**  | 7.178     |
| Sample size                 | 4,680    | 1,938    | 1,440    | 1,302    | 3,224    | 2,410    | 372      | 440       |

\*, \*\*, and \*\*\* represent significance at the 10%, 5% and 1% level, respectively.

Table A. 7. Impact of My Village learning camps (change in percentage points)



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