

Improving the Quality of Universal Primary Education in Uganda:

A Randomized Controlled Trial of Programs to Foster Local
Accountability

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Presentation to Ministry of Education and Sports

- This presentation describes our proposal for a collaborative, policy-oriented research project. The project will be undertaken by EPRC, CSAE, and Ministry and District stakeholders.
- Project aims to foster **community involvement** in schools to
 - strengthen accountability of service providers at lower levels;
 - provide feedback to policy makers at higher levels; and
 - mobilize local resources—in kind and in cash—to improve performance in the education sector.
- The study proposes the use of a randomized controlled trial (RCT) to evaluate the impact of these interventions.

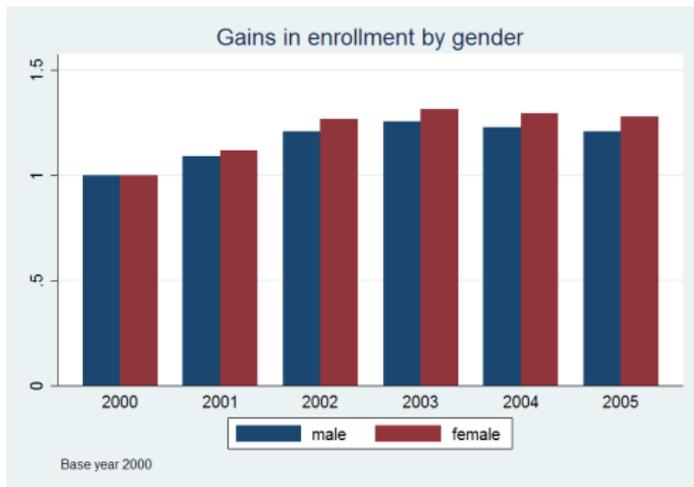
Outline

- 1 Achievements and challenges of UPE schools
- 2 Policy interventions
 - Community-based monitoring of schools
 - Community-based fundraising mechanisms
- 3 Impact evaluation design
- 4 Steps forward

Enrollment

Many achievements of the UPE era: among them, more than a doubling of primary school enrollment in the initial years (Deiningner 2003).

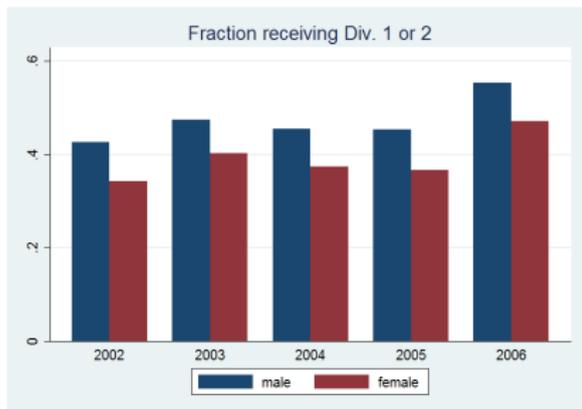
- Upward enrollment trend has continued in this decade,
- Government have absorbed an increasing fraction of the student population.



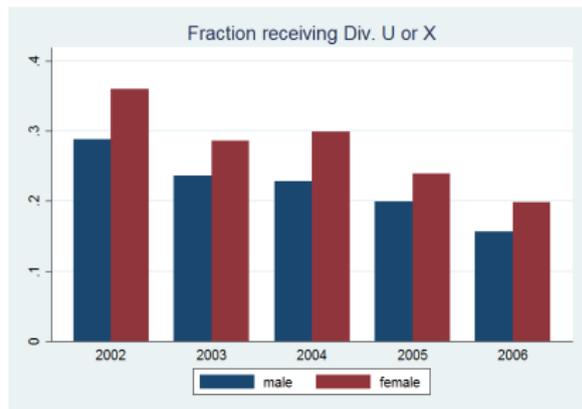
Achievement

Performance improved steadily during the first part of this decade, with impressive achievements in some areas.

- An increasing share of boys and girls achieve Div. 1 & 2 results:

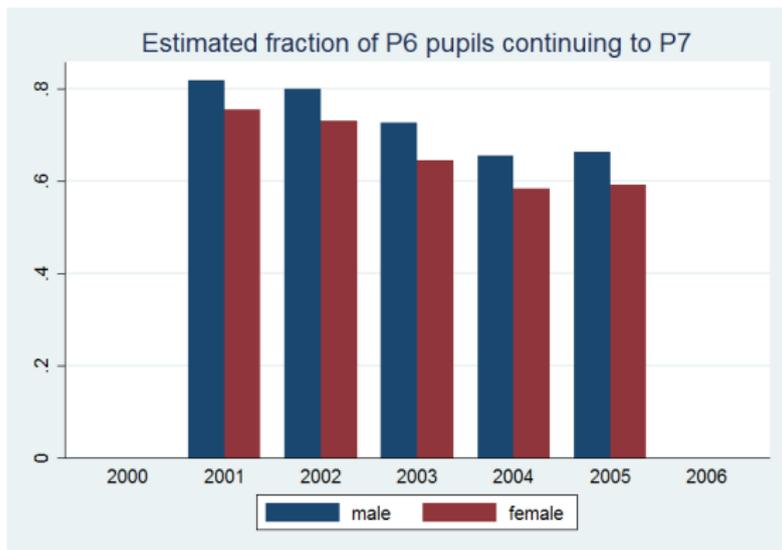


- ... and a decreasing share of boys and girls receive Div. U & X



Achievement, cont'd

However, there is reason to be concerned that low completion rates—and dropout or repetition by poor students in particular—may drive part of these results.



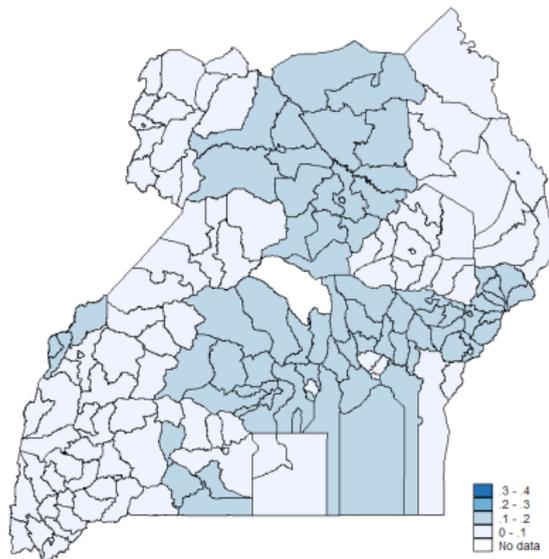
- Figure shows the ratio of each year's P7 cohort to the size of the previous year's P6 cohort.
- Decline in this ratio suggests a decline in primary school completion rates.

Achievement

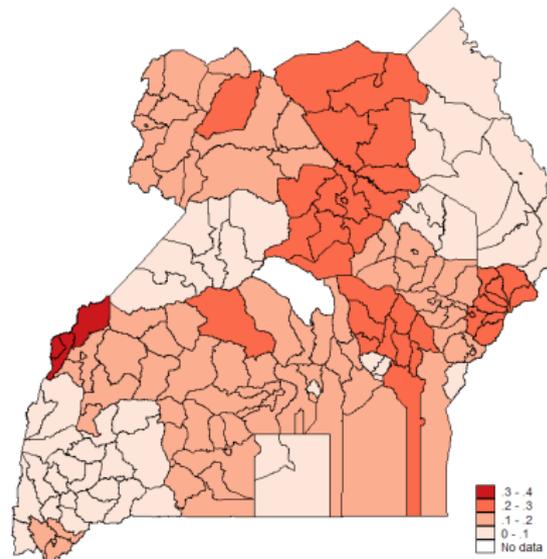
- These results raise two key questions:
 - 1 How broadly distributed have gains to date been?
 - 2 What policies have brought them about?
- As we will show, MoES and UNEB data help explain achievements and challenges of the last decade.
- Looking forward, our project hopes to provide rigorous evidence on how best to further these achievements.

How broadly shared have changes in performance been?

Fraction male pupils failing PLE, 2006

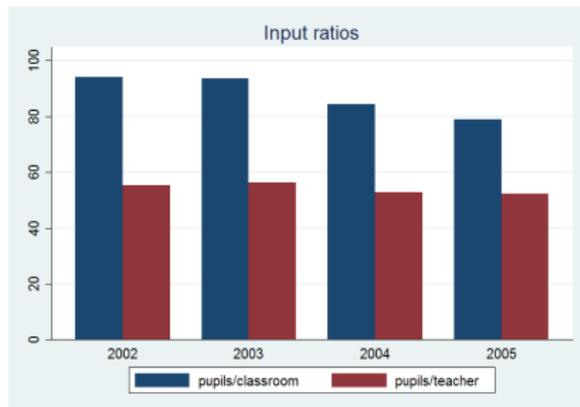


Fraction female pupils failing PLE, 2006

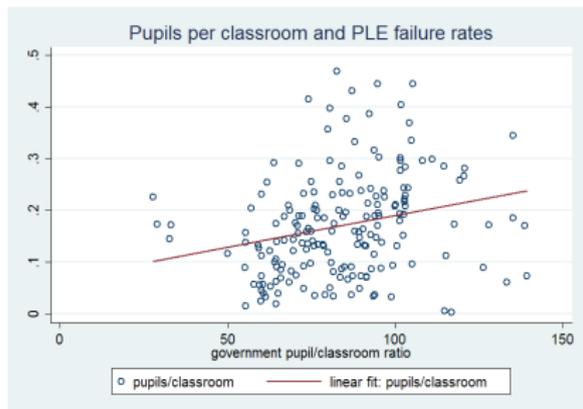


What policies have brought about observed gains?

- There have been marked increases in educational inputs over this period.
- Data (next slide) suggest these increases have had effects.
- However, there remains a lot of variation in school performance not explained by input allocations.



But how much improvement can inputs alone bring about?



- Simple correlation suggests a decrease of 10 pupils per classroom yields (only) 2% impact on likelihood of passing the PLE.
- These effects dwarfed by the variation we see in the **efficiency** with which inputs are translated into performance.

⇒ What might explain variation in efficiency? And how can it be improved?

Community-based management of schools

- Our hypothesis: There is much scope for school management to improve the use of resources such as teachers and classrooms.
 - A recent study (Chaudhury et al., 2006) found teachers to be absent 27% of the time in Uganda.
- Growing emphasis on **direct fiscal control by schools** creates a need for management structures to make sure these funds are used effectively, to promote sector-wide performance.
- The educational return on investing in community management of schools is both **relatively unknown** and **potentially important** as a policy tool.

Our proposal

- To answer these questions, we propose to **pilot and evaluate** interventions to strengthen community-based management of schools.
 - 1 The primary intervention is the use of a **community-based scorecard** as a monitoring tool.
 - 2 In addition, we are considering mechanisms to **encourage community fundraising** to support the local provision of complementary inputs (e.g., lunches).
- We propose to use a **randomized controlled trial** in four districts to evaluate these impacts.

Intervention 1: SMC scorecard

- According to the School Management Committee (SMC) Handbook, the SMC is “empowered to manage primary schools on behalf of the government”, including:
 - monitoring roles, duties, and responsibilities of teachers, parents, and pupils;
 - ensuring effective allocation of resources to instructional materials;
 - report on the activities, finances, and performance of the school.
- Intervention would provide a tool to focus monitoring and reporting activities.

Intervention 1: SMC scorecard—Key activities

What would SMCs implementing a SMC scorecard do? 2 key activities:

1 Collect monitoring data

- Periodicity: termly reports; ongoing monitoring conducted by nominated SMC members
- Content:
 - teacher attendance, adherence to lesson plans, and time use;
 - pupils' attendance, activities, and progress;
 - school resource needs, revenues, and expenditure allocations.

2 Disseminate their findings to

- Parents → *local accountability*
- District and Ministry authorities → *upward accountability*.

⇒ The design would explicitly test the importance of these alternative routes to accountability.

Intervention 1: SMC scorecard—Expected impacts

What kinds of impacts would we measure?

- 1** Intermediate effects on **processes** and education **inputs**:
 - Increased participation of SMC and of parents in school management and governance.
 - Improved allocation of resources to address school problems
 - Improved teacher performance: absenteeism, pedagogy
- 2** **Pupil performance**:
 - Pupil attendance, drop-out
 - Pupils cognitive achievements, as measured by performance on
 - PLE results; and
 - standardized tests

Intervention 2: Incentivizing local fundraising

- **Challenge:**
 - Schools and communities are failing to provide key complementary inputs—such as lunches—for pupils;
 - Only limited resources are available from central government.
- **Policy response:** Positive incentive mechanisms to encourage local contributions.
 - A number of mechanisms available to induce fundraising: matching grants, lotteries, public recognition (e.g., radio).
 - What mechanism comes at lowest cost to the Ministry—and what has the most pro-poor incidence?
- **Impact indicators:**
 - Provision of resources, and consequent performance impacts
 - Does local fundraising strengthen accountability mechanisms as in Intervention 1?

Randomized controlled trials: a tool for policy design and analysis

- The fundamental challenge of policy evaluation is to estimate the **counterfactual** outcome for schools that received an intervention:
How would schools that received X have fared if they did not receive X?
- This exercise is confounded when we look at correlations in 'retrospective' data—like the scatter plots shown earlier—by two key issues:
 - 1 **non-random selection of schools** (ex: do drugs cause disease?); and
 - 2 **multiple and overlapping interventions** (ex: which contributed more to performance improvements—increases in classrooms or teachers?).

Randomized controlled trials, cont'd

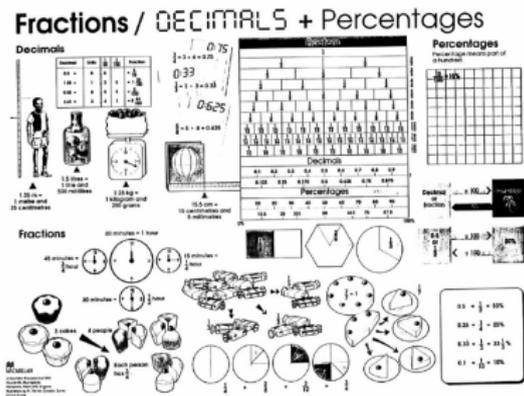
A randomized evaluation solves these problems:

- Randomized assignment of study schools to “treatment” and “control” groups guarantees these groups have comparable characteristics in all respects but the program being considered.
- Baseline and follow-up surveys in *both* treatment and control group: impact estimated from “difference in differences” over time.
- Policies are independently allocated so that their effects can be distinguished.

Results are transparent and credible: you can be sure that observed differences are attributable to the program.

Flip charts and selection bias: a cautionary tale

Can this make a big difference? The case of flipcharts in Kenya is informative:



- 'Retrospective' evidence in Kenya suggested that flipcharts had big educational impacts—roughly, should raise test scores by 8 percentile points.

- RCT was used to test these effects in a pilot. 89 schools randomly assigned treatment; 89 control group.
- Results from RCT show the impacts “decisively reject” these findings (Glewwe et al. 2004). Effect is much smaller—less than 1 percentile improvement!

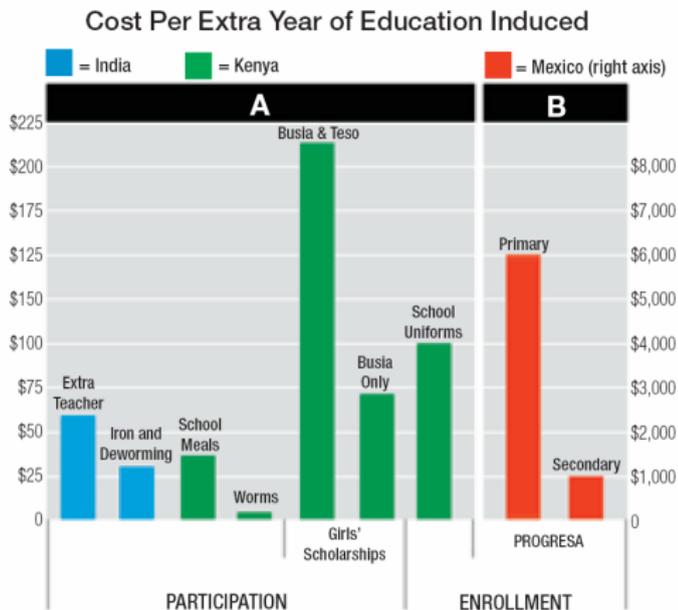
What can the Ministry learn from a randomized controlled trial?

Three lessons:

- 1** *Rates of return:* Is X a good policy intervention or not?
 - Does investing in community-based monitoring improve school performance relative to other alternative policies?
- 2** *Design:* How do the results from undertaking X vary with alternative implementation methods?
 - What is the best accountability framework in which to embed SMC scorecards?
- 3** *Interactions:* How do potentially complementary policies interact?
 - Does effective local accountability require local financial contribution?

Rates of return

- A RCT tells us the average effect of the treatment studied in the population.
- This can be compared across alternative uses of funds to find the most cost-effective intervention to bring about a particular objective:



Source: Esther Duflo

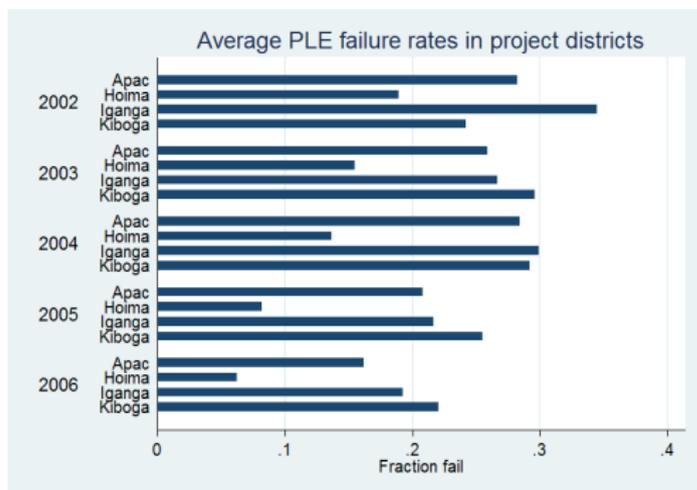
Using RCT to evaluate alternative implementation modalities

- Suppose we want to know the importance of fostering local versus top-down accountability.
- In our RCT, we randomly allocate some groups to emphasize top-down and some to emphasize bottom-up.
 - ⇒ Differences in impacts are attributable to the effect of this design feature.
- Thus RCT can provide timely feedback on the most effective way to implement a given intervention.

Policy interactions in RCT design: an example

- A recent evaluation in Kenya looked at the effect of hiring contract teachers and its interaction with community-based monitoring of schools.
 - ⇒ Found that contract teachers improved pupil performance *only* when monitoring authority was given to SMC.
- Here: Does effective local accountability require local financial contribution?
- Cross-cutting design.

District selection



- Inclusion of 4 regions.
- Selected districts should be amenable to participation, but should provide good examples of the challenges and opportunities likely if scaled up.

⇒ A puzzle for the baseline:

Why have comparable districts, such as Hoima and Kiboga, with similar starting points, diverge so markedly?

Allocation of treatment and control schools: SMC

	meals control schools	meals intervention	total
SMC control schools	17	17	34
SMC score-cards: Bottom-up accountability	17	16	33
SMC score-cards: Upward accountability	17	16	33
total	51	49	100

Process and steps forward

- 1 Workshop this week (Wednesday–Friday) to
 - provide training in impact evaluation methodology;
 - disseminate project to key stakeholders;
 - prepare draft instruments and manuals for SMC intervention
 - define outcome indicators

Results will be sent to MoES for comment.

- 2 May:
 - Survey instruments prepared
 - Standardized tests adopted for use with ESA
- 3 June:
 - Baseline survey to be conducted, incl/standardized tests.
 - Concurrent training of SMC members and dissemination of scorecard tool to ‘treatment’ schools.
- 4 December: process follow-up survey; results on intermediate impacts
- 5 January 2009: implementation of school meals intervention
- 6 December 2009: impact evaluation survey, analysis, dissemination.

References I

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