

# Access and Quality in Kenyan Primary Education

A Collaborative Study between:  
University of Nairobi  
University of Oxford  
Ministry of Education  
Kenya National Examinations Council

March 23, 2011

# Acknowledgements

- Prof. James Ole Kiyiapi, Permanent Secretary
- Prof. George Godia, Education Secretary,
- Dr. Paul M. Wasanga, Council Secretary and Chief Executive, KNEC
- Mr. Mukhtar Abdi Ogle, National Coordinator, Assessment Centre, KNEC

# Today's Presentation

## Two research outputs

- Completed:  
Impact of Free Primary Education on enrolment & achievement.  
(CSAE Working Paper: Bold, Kimenyi, Mwabu & Sandefur, 2011)
- Ongoing:  
Field experiment on contract teachers & school governance.  
(KNEC, World Vision, Oxford collaboration)

# Outline

## Introduction on FPE

Hypotheses

Data sources

## Expenditure

The demand for public & private schooling (prices)

## Enrolment

The demand for public & private schooling (quantities)

Has FPE reduced inequality in educational attainment?

Why did the rich leave?

## Achievement (Test Scores)

Implications of Exit to Private Schools for KCPE Scores

What explains the public-private exam gap?

Conclusions on FPE

A randomized impact evaluation of the community support teacher programme

# Hypothetical Links from FPE to School Quality

Three channels linking FPE to student performance:

1. Ambiguous effect on total funding

- Increased government funding
- Loss of fee revenue
- Possible increase in class sizes

2. Changes in the pool of students

- Marginal students may be poorer, older, less able, etc.

3. Centralization  $\Rightarrow$  loss of local accountability

- Parents no longer pay for the school, so may lose sense of ownership
- PTAs no longer raise fees, so governance power may be undermined



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## Inferring quality from enrolment & price data

Thinking in terms of supply & demand, what do we expect from FPE?

**Anticipated** Public enrolment should swell, and demand for private enrolment should fall (lower enrolment, lower price).

**Observed** Public enrolment declined or remained unchanged (depending on socio-economic group). Private enrolment and fee levels increase dramatically.

**Implication** Fall in demand for public schooling and an increased demand for private schooling. Decline in public school quality.

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## Data sources

Enrolment analysis based on household survey data

**Pre-FPE** ● Welfare Monitoring Survey, 1997

**Post-FPE** ● Kenya Integrated Household Budget Survey, 2006

**Overlap** ● Socioeconomic indicators: consumption, education of HH head  
● Children's current enrolment status  
● Expenditure on education, fees and other categories

Achievement analysis based on administrative, school-level data.

**KCPE** ● Kenya Certificate of Primary Education (KCPE) exam  
● Administered at end of grade 8.  
● Use panel of school-average scores by gender.

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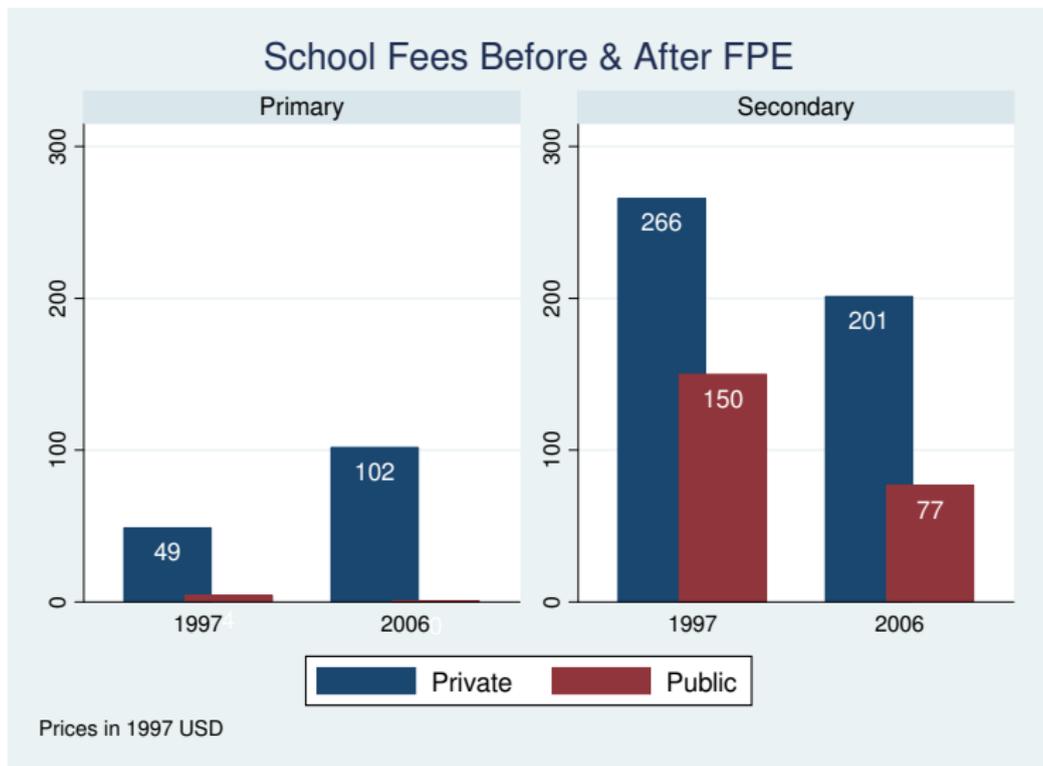
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## How did private fees respond to FPE?



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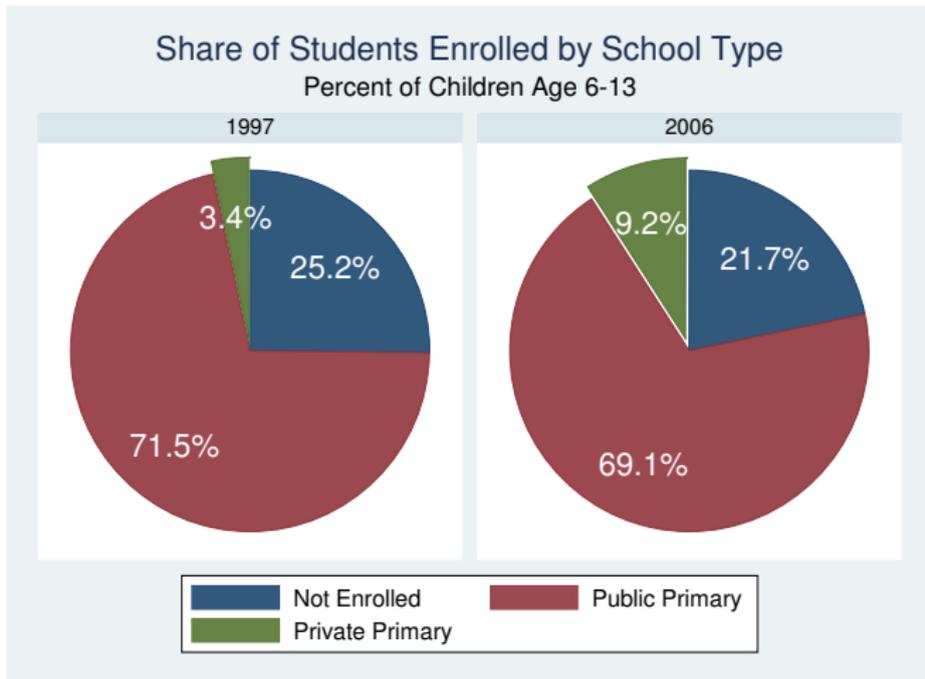
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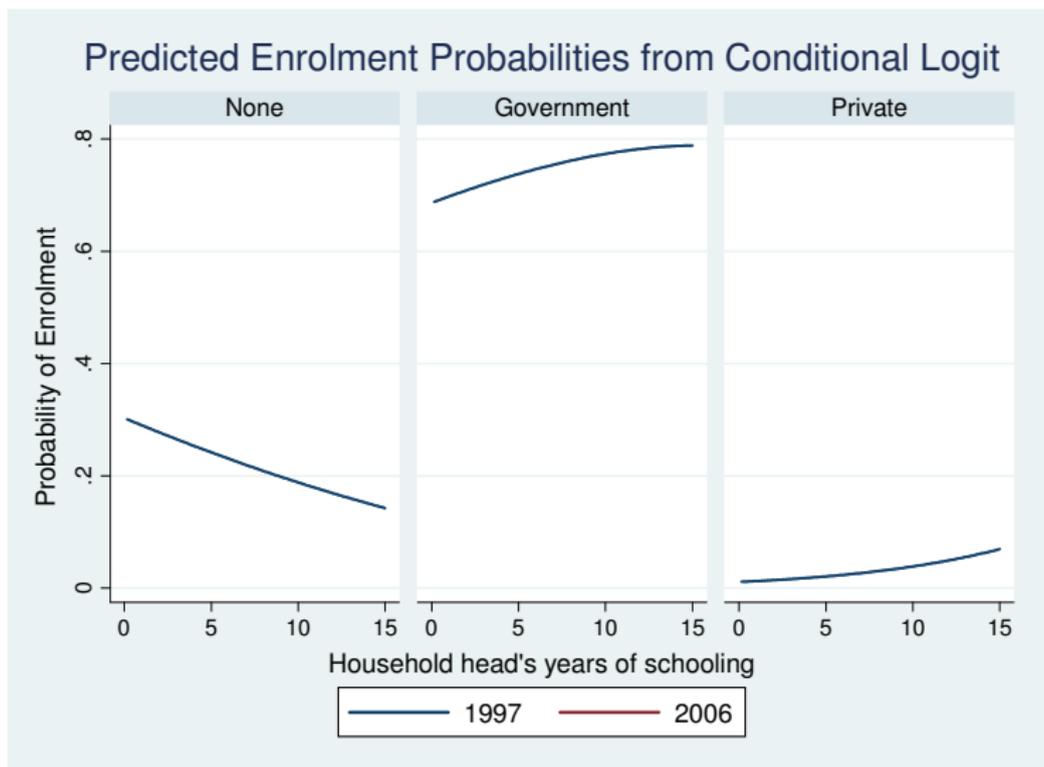


## Did abolishing fees drive students away?



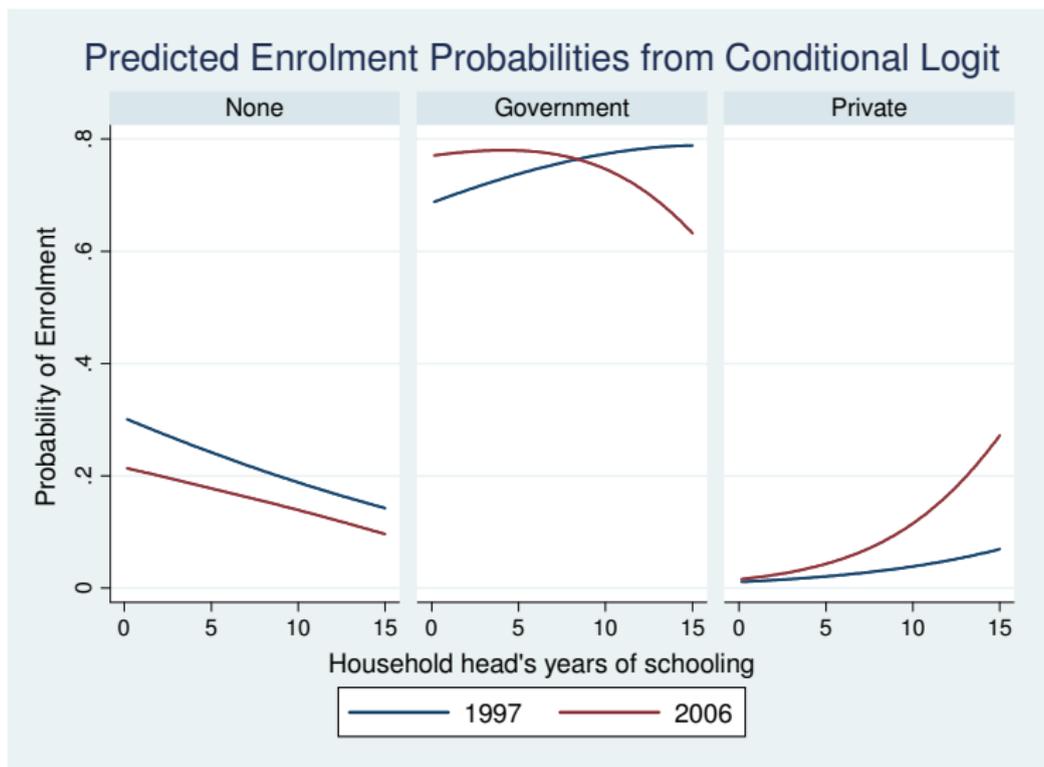


## Has FPE reduced inequality in educational attainment?





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## Why did the rich leave?

1. Resources (esp. class size)
2. Peers
3. Management/accountability/incentives

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## Achievement: Implications of Exit to Private Schools for KCPE Scores

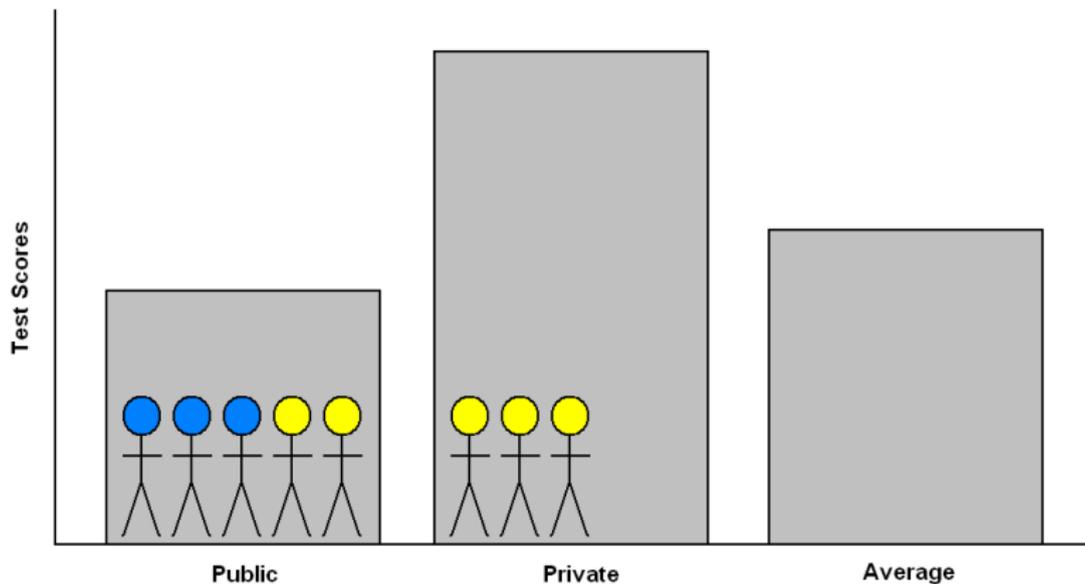
Table: Achievement: Summary Statistics for KCPE Exams

|      | Average Score |       |      |              | Pupils Sitting Exam |            |
|------|---------------|-------|------|--------------|---------------------|------------|
|      | All           | Gov't | Priv | Priv Premium | All                 | Priv Share |
| 1998 | 247           | 245   | 281  | 14.7%        | 441,742             | 4.8%       |
| 1999 | 247           | 245   | 286  | 16.7%        | 450,030             | 5.2%       |
| 2000 | 247           | 245   | 288  | 17.6%        | 475,951             | 5.6%       |
| 2001 | 247           | 244   | 291  | 19.3%        | 509,325             | 6.3%       |
| 2002 | 247           | 244   | 291  | 19.3%        | 534,865             | 7.3%       |
| 2003 | 247           | 243   | 297  | 22.2%        | 583,439             | 7.6%       |
| 2004 | 247           | 243   | 297  | 22.2%        | 652,224             | 8.2%       |
| 2005 | 247           | 243   | 290  | 19.3%        | 665,644             | 9.7%       |

Averages scores are based on school-level data, weighted by the number of pupils sitting the exam in each school. The between-school standard deviation in KCPE scores was relatively stable over the period, ranging from 40 to 42 overall, 36-39 for government schools, and 51-57 for private schools.



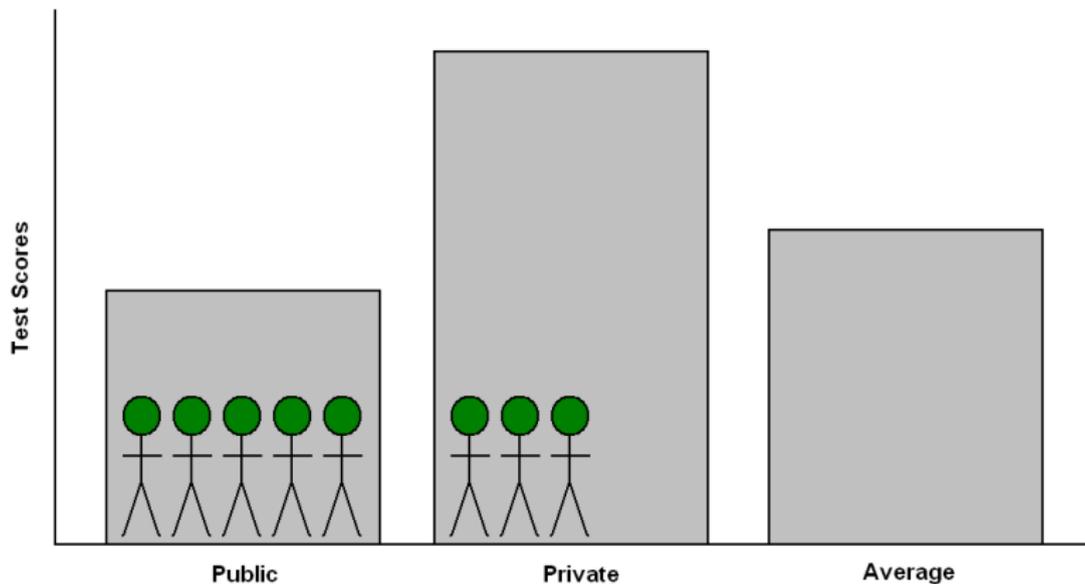
## Scenario #1: Selection on ability





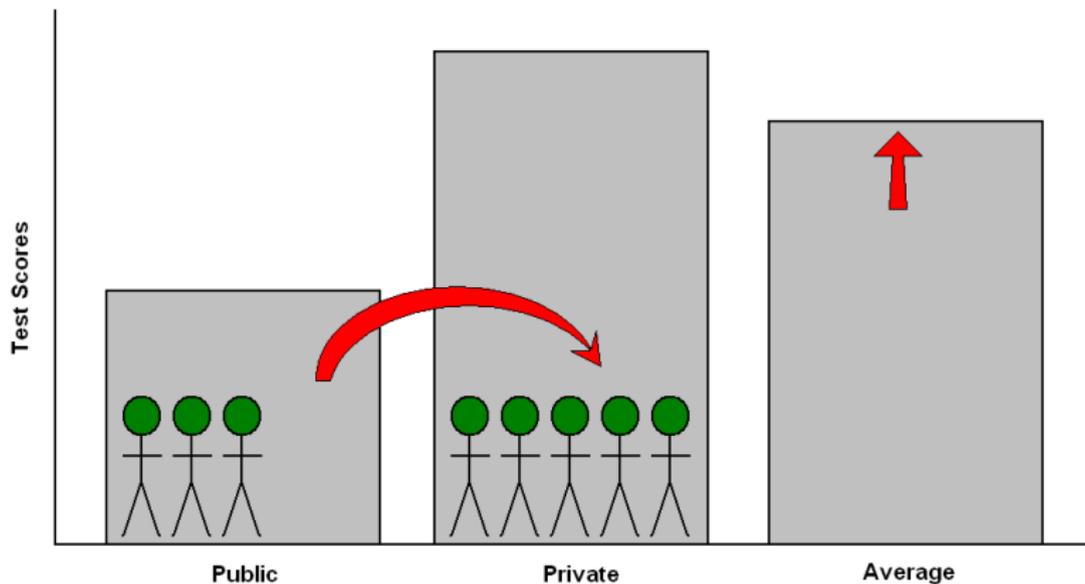


## Scenario #2: Causal effects of private schools





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## Achievement

**Table:** Determinants of KCPE Scores: Panel of District-Gender Cells

|                               |                               |
|-------------------------------|-------------------------------|
| Private school share          | 21.4<br>(7.3) <sup>***</sup>  |
| Total enrolment               | -4.3<br>(.4) <sup>***</sup>   |
| Constant                      | 257.3<br>(1.4) <sup>***</sup> |
| District-gender fixed effects | Yes                           |
| Year fixed effects            | Yes                           |
| Obs.                          | 1,063                         |

# Summary of findings

1. Inequality in education access has declined
2. Evidence that quality declined:
  - NER was unchanged or fell for government primary schools.
  - Enrolment and fees in private primary schools went up dramatically.
3. Mechanisms linking FPE to lower quality:
  - Changes in PTR and socio-economic composition explain rich flight.
  - No evidence here of deteriorating 'TFP' within schools.
4. The role of private schools:
  - Public-private exam gap is big, and roughly 1/2 causal.
  - Most private schools operate on less money than gov't schools.
  - Normative spin: We might reject market-based allocation of schooling, while still embracing the productive efficiency of private schools.

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## Background and policy relevance

- The Ministry has invested an enormous amount from economic stimulus funds to hiring 18,000 contract teachers. This is an exciting initiative, but raises many questions:
  - Does the reduction in class size brought about by these teachers lead to improve test scores?
  - Does the reliance on contract teachers (regardless of class size) matter for school performance, either positively or negatively? They have fewer qualifications but may be more motivated, and of course present huge budget savings to the Ministry.
- The pilot of the Community Support Teachers tests the impact of the contract teacher approach in a smaller set of schools; the results can directly inform the design of the broader national program.

## The research programme

- Evaluation of a pilot programme: the Community Support Teachers Programme, run by KNEC and World Vision Kenya
- Similar to previous work on NGO programs in Busia, Western Kenya. We test whether interventions that have proven effective in those small-scale randomized trials can be successfully scaled-up to the national level.
- Main research questions: does deployment of community support teachers raise pupil test performance
- Research will explore the role of class size, teacher contracts and SMC governance in improving primary school quality
- The evaluation is being implemented by the Kenya National Examination Council (KNEC) and World Vision Kenya (WVK) in collaboration with an international research team, under the direction of the Permanent Secretary of the Ministry of Education.

# The research programme

The intervention involves two primary components:

1. “Community support teachers” on short-term contracts to lower-grade classes in government schools, and
2. Governance training to members of the School Management Committee.

The project is randomized across 192 schools spanning all 8 provinces of Kenya.

|                           | Ministry<br>Implementation | NGO<br>Implementation |
|---------------------------|----------------------------|-----------------------|
| Teacher +<br>SMC Training | 32 schools                 | 32 schools            |
| Teacher                   | 32 schools                 | 32 schools            |
| Control                   | 32 schools                 | 32 schools            |

## What type of teacher contract yields the best performance?

Two concepts to consider, related to accountability:

- Do the people with most information about teacher behavior make employment decisions?
- Are long-term career prospects linked to teacher performance?

|             | TSC Teachers | PTA Teachers |
|-------------|--------------|--------------|
| Contract    | Permanent    | None         |
| Recruitment | District     | School       |
| Employment  | Nairobi      | School       |
| Salary      | KES 19,372   | KES 4,151    |
| Share       | 82.5%        | 17.5%        |

## An indicator of local accountability?

### Teacher Absenteeism: Days absent in the last 4 weeks

|                            | TSC Teachers | PTA Teachers | All        |
|----------------------------|--------------|--------------|------------|
| Taken ill                  | 0.7          | 1.2          | 0.8        |
| Illness, funeral in family | 0.3          | 0.4          | 0.3        |
| Other household emergency  | 0.4          | 0.3          | 0.4        |
| Collecting salary          | 0.6          | 0.1          | 0.5        |
| Workshop                   | 0.9          | 0.2          | 0.8        |
| Other official function    | 1.6          | 0.6          | 1.4        |
| Business, second income    | 0.1          | 0.1          | 0.1        |
| Other                      | 0.3          | 0.2          | 0.3        |
| <b>Total absences</b>      | <b>4.8</b>   | <b>3.1</b>   | <b>4.5</b> |

# What type of teacher contract yields the best performance?

To disentangle the effects of various contractual and programmatic arrangements, the research project will “cross cut” various project features

1. Centralized hiring and payment versus local control by SMCs
2. Salary levels: 5,000 vs 9,000 KES/month

# Timeline

- Baseline survey conducted by KNEC in July/August 2009.
- Findings from baseline survey provided strong empirical justification for the teacher internship proposal as put forward by the Ministry
  1. A stark gap between the competencies outlined in the national curriculum and the actual achievement levels observed, particularly among lower primary pupils.
  2. Widespread use of locally-hired, PTA teachers in many schools
  3. Evidence that many of these PTA teachers are fully qualified and providing valuable service, albeit at very low wages and without formal employment
- Teachers entered schools in June 2010. The current goal is to extend the program through the current academic/calendar year, and conduct follow-up testing in December 2011.