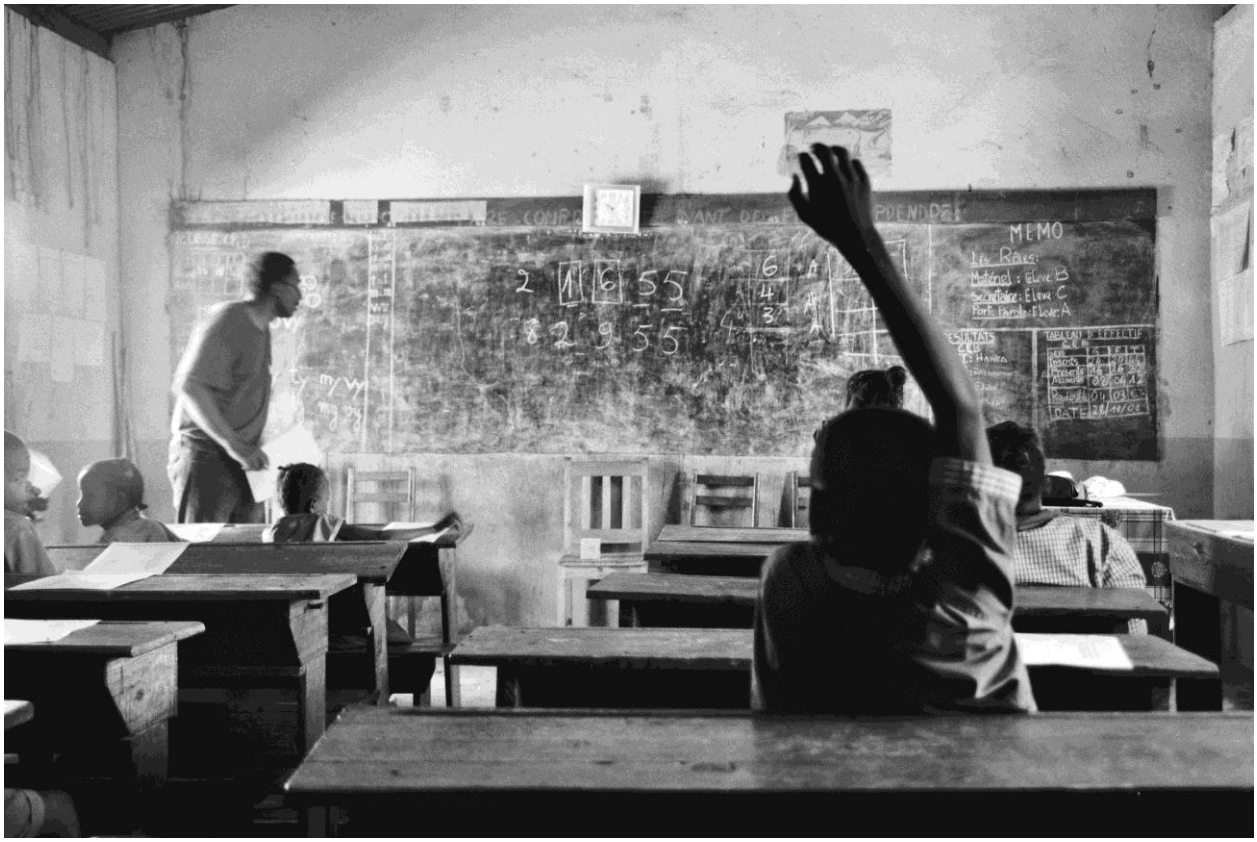
J-PAL
ABDUL LATIF JAMEEL POVERTY ACTION LAB

CASE STUDY 1: REFORMING SCHOOL MONITORING

Program Theory and Measuring Outcomes



This case study is based on the J-PAL Study "Primary Education Management in Madagascar" by Esther Duflo, Gerard Lassibille, and Trang van Nguyen.

J-PAL thanks the authors for allowing us to use their paper.

KEY VOCABULARY

Hypothesis: a proposed explanation of and for the effects of a given intervention. Hypotheses are intended to be made ex-ante, or prior to the implementation of the intervention.

Indicators: metrics used to quantify and measure specific short-term and long-term effects of a program

Logical Framework: a management tool used to facilitate the design, execution, and evaluation of an intervention. It involves identifying strategic elements (inputs, outputs, outcomes and impact) and their causal relationships, indicators, and the assumptions and risks that may influence success and failure

Theory of Change: describes a strategy or blueprint for achieving a given long-term goal. It identifies the preconditions, pathways and interventions necessary for an initiative's success

INTRODUCTION

Over the last 10 years, low-income countries in Africa have made striking progress in expanding coverage of primary education. However, in many of these countries the education system continues to deliver poor results, putting the goal of universal primary school completion at risk. Incompetent administration, inadequate focus on learning outcomes, and weak governance structures are thought to be some of the reasons for the poor results. This case study will look at a program which aimed to improve the performance and efficiency of education systems by introducing tools and a monitoring system at each level along the service delivery chain.

MADAGASCAR SCHOOL SYSTEM REFORMS: "IMPROVING OUTPUTS NOT OUTCOMES"

Madagascar's public primary school system has been making progress in expanding coverage in primary education thanks in part due to increases in public spending since the late 1990s. As part of its poverty reduction strategy, public expenditure on education rose from 2.2 to 3.3 percent of GDP between 2001 and 2007. In addition to increased funding, the government introduced important reforms such as the elimination of school fees for primary education, free textbooks to primary school students, public subsidies to supplement the wages of non–civil service teachers in public schools (in the past they were hired and paid entirely by parent associations), and new pedagogical approaches.

The most visible sign of progress was the large increase in coverage in primary education in recent years. In 2007, the education system enrolled some 3.8 million students in both public and private schools—more than twice the enrolment in 1996. During the last 10 years, more than 4000 new public primary schools have been created, and the number of primary school teachers in the public sector more than doubled.

While this progress is impressive, enormous challenges remain. Entry rates into grade 1 are high, but less than half of each cohort reaches the end of the five-year primary cycle. Despite government interventions, grade repetition rates are still uniformly high throughout the primary cycle, averaging about 18 percent. Furthermore, test scores reveal poor performance: students scored an average of 30 percent on French and 50 percent on Malagasy and mathematics.

Discussion Topic 1

Madagascar school system reforms

1. Would you regard the reforms as successful? Why or why not?
2. What are some of the potential reasons for why the reforms did not translate into better learning outcomes?

PROBLEMS REMAIN...

As the starting point of the study, researchers worked with the Ministry of Education to identify the remaining constraints in the schooling system. A survey conducted in 2005 revealed the following key problems:

1. Teacher absenteeism: At 10 percent, teacher absenteeism remains a significant problem. Only 8 percent of school directors monitor teacher attendance (either by taking daily attendance or tracking and posting a monthly summary of attendance), and more than 80 percent fail to report teacher absences to sub-district and district administrators.

2. Communication with parents: Communication between teachers and parents on student learning is often perfunctory, and student absenteeism is rarely communicated to parents.

3. Teacher performance: Essential pedagogical tasks are often neglected: only 15 percent of teachers consistently prepare daily and biweekly lessons plans while 20 percent do not prepare lesson plans at all. Student academic progress is also poorly monitored: results of tests and quizzes are rarely recorded and 25 percent of teachers do not prepare individual student report cards.

Overall, many of problems seem to be result of a lack of organization, control and accountability at every stage of the system, all of which are likely to compromise the performance of the system and lower the chance of the reforms being successful.

INTERVENTION

In order to address these issues, the Madagascar Ministry of Education seeks to tighten the management and accountability at each point along the service delivery chain (see Figure 1) by making explicit to the various

administrators and teachers what their responsibilities are, supporting them with teaching tools, and increasing monitoring.

The ministry is considering two approaches to evaluate[1]:

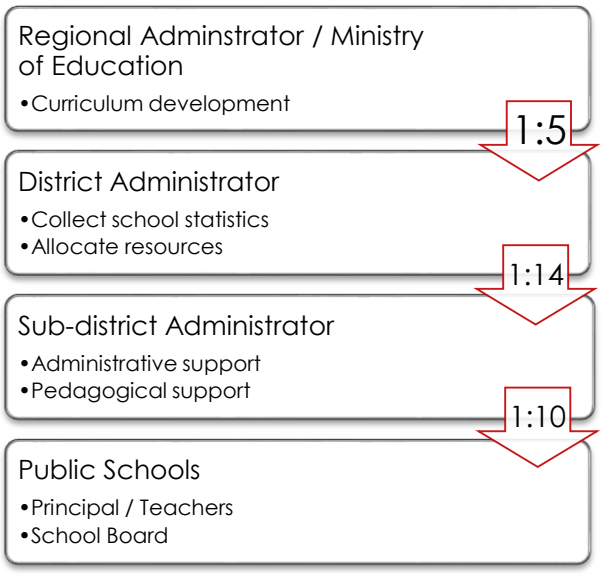
1. Top-Down

Operational tools and guidebooks which outline their responsibilities are given to the relevant administrators. During a meeting, administrators are trained on how to carry out their tasks, and their performance criteria are clarified. This is followed up by regular monitoring of their performance, which is communicated through (sub-) district report cards to higher levels.

2. Bottom-Up

This program promotes the ability of parents to monitor their schools and hold teachers accountable when they perform below expectation. Report cards with easy-to-understand content are given to parents and members of poor rural communities. They contain a small set of performance indicators, information on enrolments and school resources, as well as data that allow a school's performance to be compared that of other schools (see Appendix). In addition, greater community participation in school-based management is encouraged through structured school meetings in which staff of the school, parents, and community members review the report card and discuss their school improvement plan.

FIGURE 1: EDUCATION SYSTEM



Discussion Topic 2

Intermediate and final outcomes

1. Before setting up the RCT, researchers carefully analyzed the existing problem. Why do you think this is important as a starting point of an evaluation?
2. What are the intermediate and ultimate goals that this program hopes to achieve?
3. What is the key hypothesis being tested through this impact evaluation?

THEORY OF CHANGE

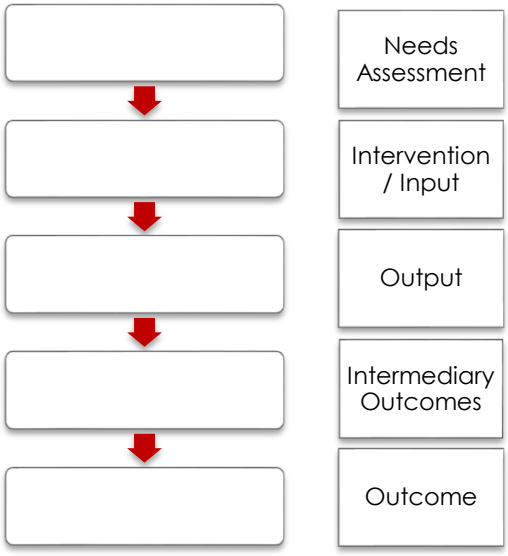
A theory of change (ToC) identifies the causal link between the intervention and the final outcome. Figure 2 shows one way in which a ToC can be structured.

For example, a program or intervention is implemented to address a specific problem identified in the needs assessment (e.g. low literacy levels). The intervention (e.g. text books) may lead to outputs (e.g. students usage of textbooks) through which intermediary outcomes (e.g. reading skills) could be affected. These may lead to longer-term outcomes (e.g. drop-out rates, employment

1 The actual evaluation included further interventions such as training of teachers. For more details, please refer to the paper. For pedagogical reasons, we focus only on two approaches in this case study.

outcomes). An underlying assumption of this ToC is that students do not already have text books.

FIGURE 2: THEORY OF CHANGE



Discussion Topic 3

Theory of change

1. Draw out the causal chain using the format in Figure 2 for each of the Bottom-up and Top-down interventions (use a separate ToC for each).
2. What are the necessary conditions/assumptions underlying these ToCs?

WHAT DATA TO COLLECT? DATA COLLECTION AND MEASUREMENT

Before deciding which data to collect, you need to be very clear on the outcome you are targeting and in what way the intervention is theorized to impact this outcome. In other words, identifying a key hypothesis and theory of change at the beginning of an evaluation helps you to decide what information to collect.

For each step of the theory of change, we need to identify indicators (what to measure) and instruments (how to collect data). Continuing with the example of the text book program, an indicator could be reading level of students and the instrument could be standardized reading tests. In addition, we need to collect data on our assumptions to see whether or not they hold true.

Discussion Topic 4

Measuring outcomes and indicators

1. Which indicators would you measure at each step in the ToCs you drew up?
2. How would you collect data for these indicators? In other words, what instruments would you use? Do you foresee challenges with these forms of data collection?

HOW TO INTERPRET THE RESULTS

The evaluation found that the bottom-up approach led to successful results. Attendance at meetings between teachers and community members was high, and although communication between teachers and parents did not change, teachers improved the quality of teaching as shown by an increase in lesson plans and test scores.

However, the findings of the top-down intervention were quite different:

Discussion Topic 5

Interpreting the results

1. How do you interpret the results of the Top-down intervention?
2. Why is it important to interpret the results in the context of a program theory of change?
3. What are the policy implications? How might you respond to these findings?

Theory of Change	*Indicators*	*Results*