



Cost Measurement of USAID Education Programs: Practical Guidance

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To optimize learning...

- Are you a cost analysis nerd?
 - Please proceed to the **NERD TABLES**
- Are you a USAID cost capture guru?
 - Please proceed to the **GURU TABLES**
- Are you a cost measurement novice?
 - All the other tables are **YOURS!**

Agenda

- Introductions (10 min)
- Overview of cost measurement objectives and principles (20 min)
 - Application to case studies (group work: 15 min)
- USAID approach to cost data capture (15 min)
 - Application to case studies (group work: 15 min)
- BREAK 15 min**
- USAID approach to cost data analysis part 1 (25 min)
 - Application to case studies (group work: 15 min)
- USAID approach to cost data analysis part 2 (20 min)
- Discussion and Q&A (30 min)

WHY MEASURE COST?





**WHY IS
THIS
NOT MY
HOUSE?**



**How much do
our
interventions
cost?**

**Can
governments
afford them?**

**Is this the
best way we
can spend our
\$\$?**

Objectives of Cost Measurement

Program design

Map out cost structure and needed inputs to achieve desired results

Sustainability

Cost out intervention components for sustaining or scaling them

Improve value
for money

Efficiency

Examine expenditure to identify opportunities for cost savings

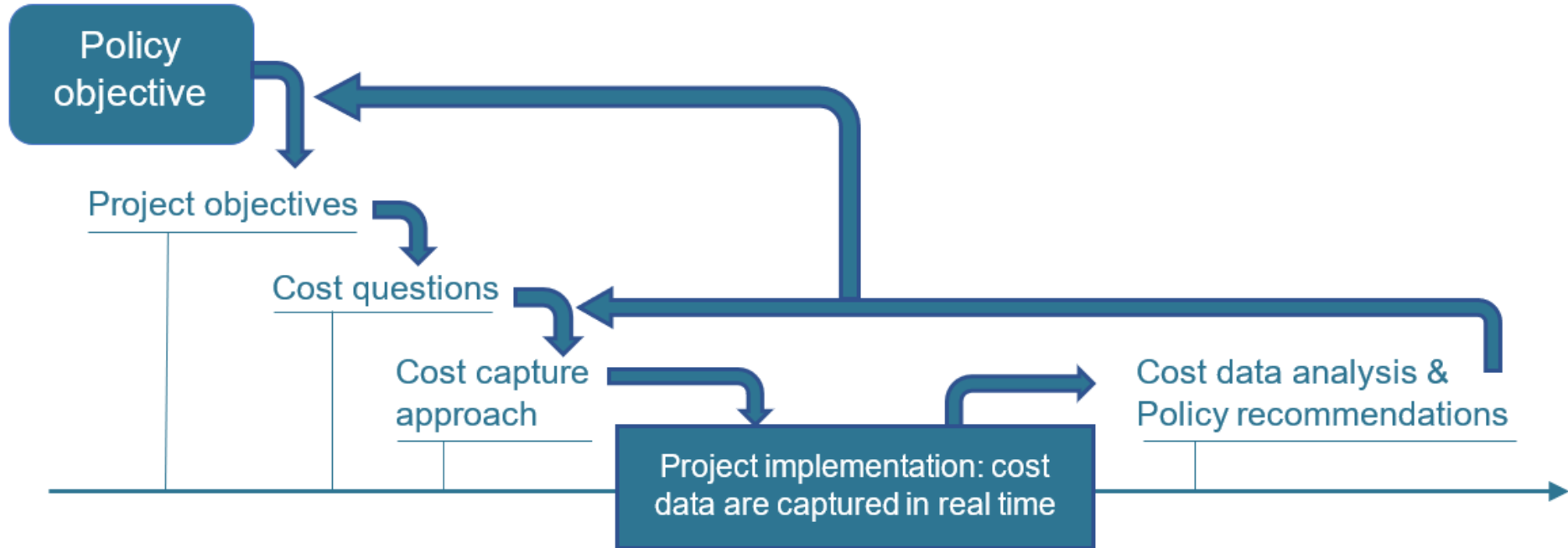
Effectiveness

Identify the least costly models with the greatest impact

Common cost measurement questions

- How much does it cost to...
 - achieve results we want?
 - scale/sustain successful interventions?
 - improve learning outcomes for the most marginalized learners?
- How do context features affect costs?
- How do intervention features affect costs?

Timeline of cost measurement



GROUP DISCUSSION QUESTIONS

1. Review your table's case study
2. Figure out broader government/donor policy objective(s) that the intervention in your case study is supporting
3. As a group, come up with a few cost analysis questions

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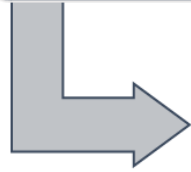
OUR APPROACH



Our approach

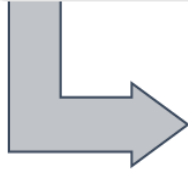
capture

Step 1. Establish foundation for cost analysis by standardizing expenditure reporting across interventions. Pilot of cost capture approach



analyze

Step 2. Develop cost analysis methodology



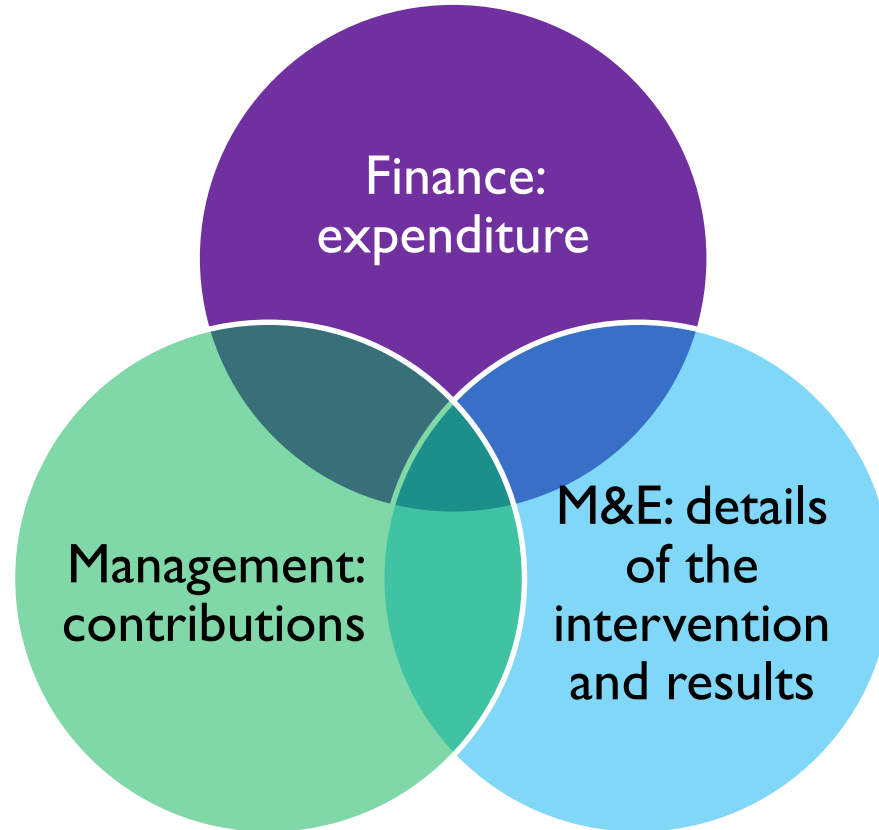
use

Step 3. Set up parameters for cost data use

COST REPORTING OBJECTIVES

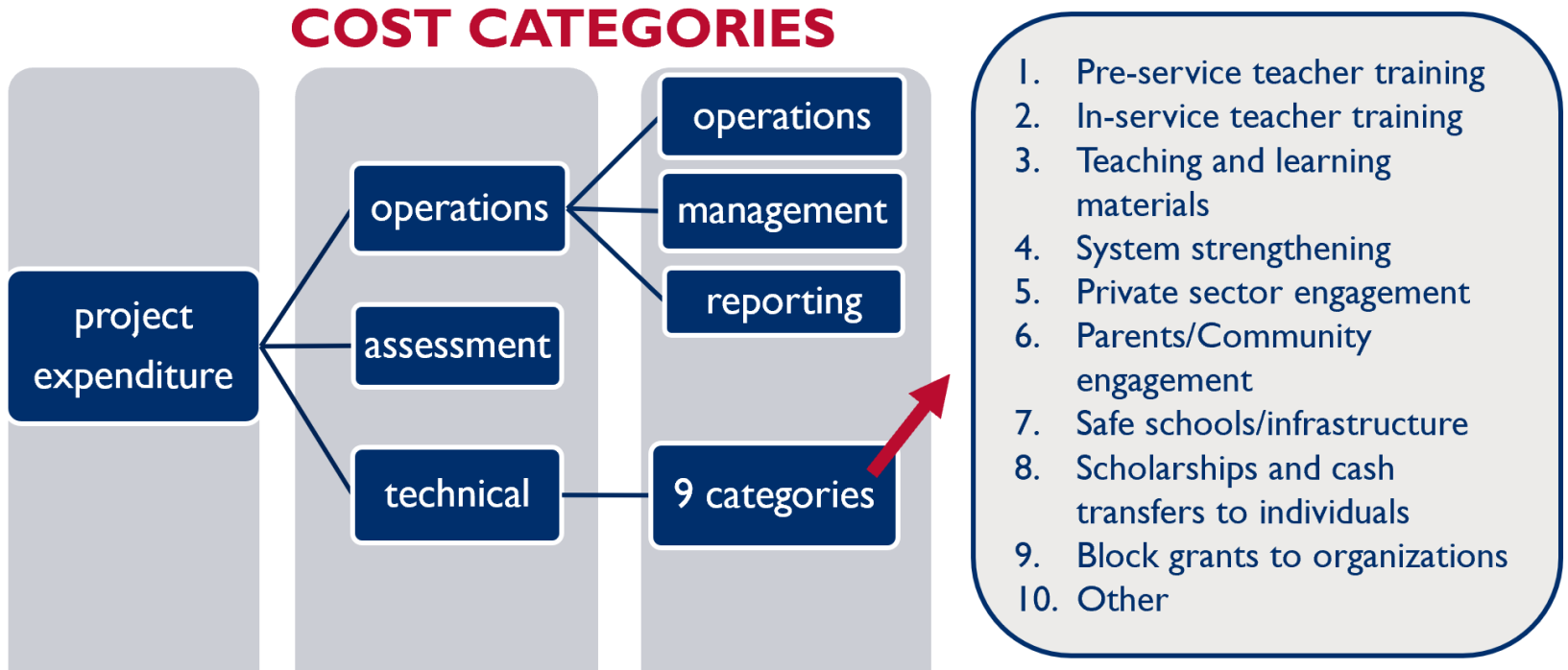
1. Standardize cost capture across implementing partners, Missions and projects
2. Standardize reporting of critical inputs from other sources
3. Standardize reporting of details of USAID-funded interventions

Key components of cost capture



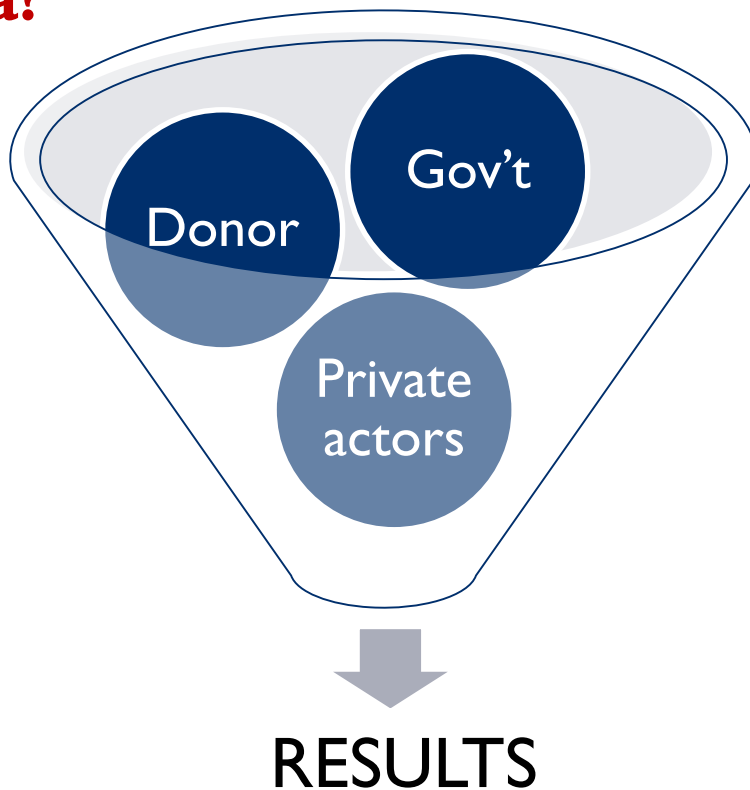
HOW do we get cost data?

Step 1. We standardize expenditure reporting



HOW do we get cost data?

Step 2. Capture information about contributions



WHAT else do we need for cost analyses?

Step 3. Ensure intervention features are well-documented



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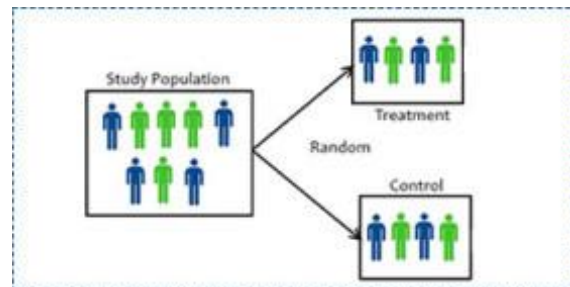
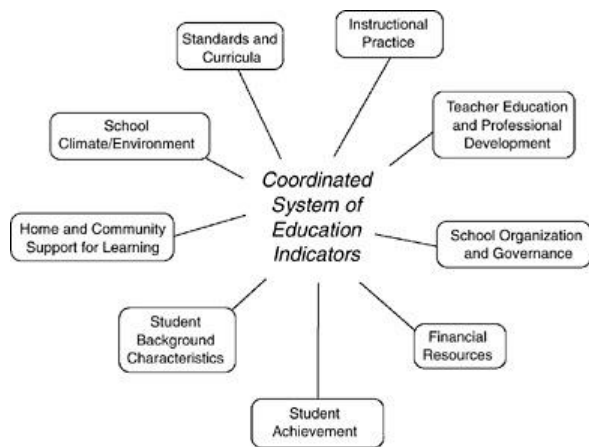


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HOW do we make sure results are comparable?

Step 4. Ensure output and outcome data are collected using common metrics and methodologies



GROUP DISCUSSION QUESTIONS

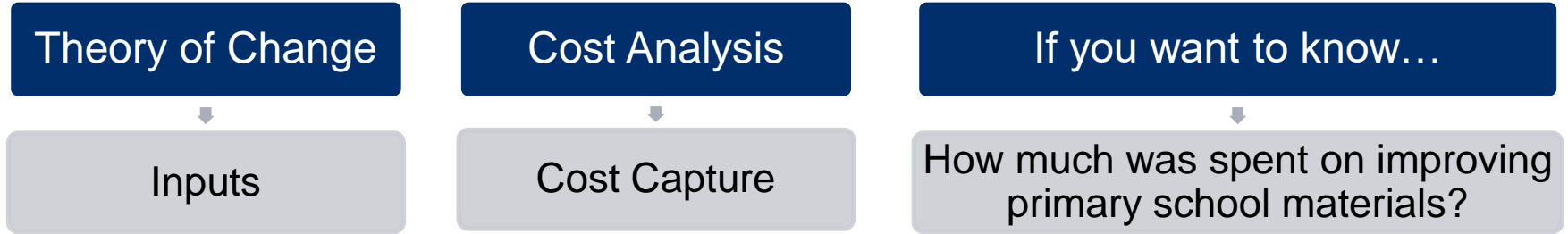
- Review the activities planned for implementation in your case study
- As a table, discuss what cost categories the project should collect cost data for
- Refer back to your cost questions. Will collecting these data allow you to answer these questions? If not – what additional sub-categories you might want to include?

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COST ANALYSIS APPROACH



Types of Cost Analysis



Cost-economy analysis and sustainability

What Questions Will It Answer?

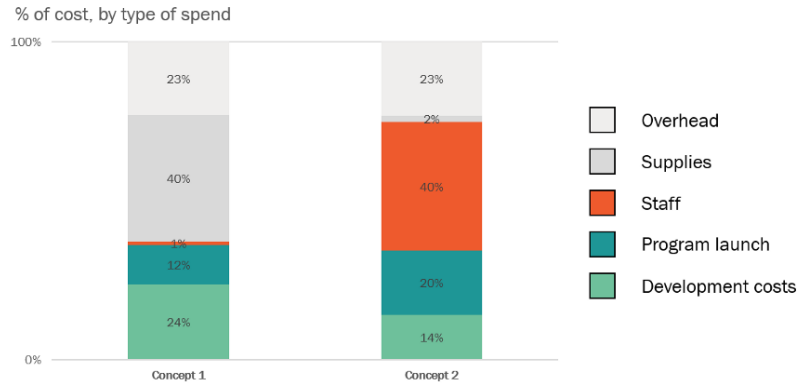
- Cost-economy: How much was spent on different inputs? What were the main cost drivers for the program? Where could savings be found?
- Sustainability: How much should the government budget for a scale up?

What Data Will We Need?

- Detailed expenditure reports, including pricing information for all key inputs.

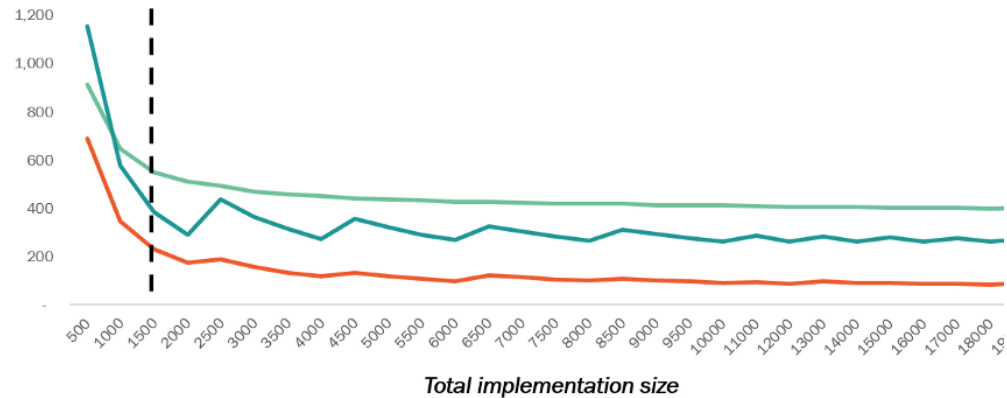
Cost-economy analysis and sustainability

Concept 1 largest share of cost is supplies, and Concept 2 is largest cost is trainers



After reaching ~1,500 person program size, costs to implement remain consistent, and no new efficiencies are gained from scale

Estimated baseline cost per person (\$)



Cost-efficiency analysis

What Questions Will It Answer?

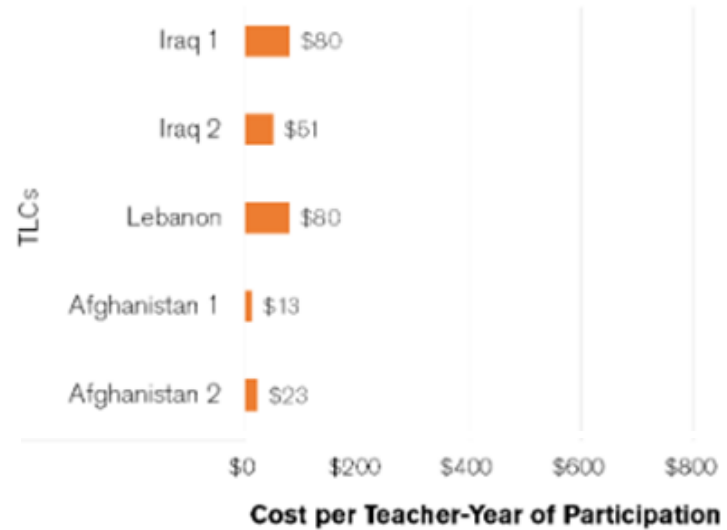
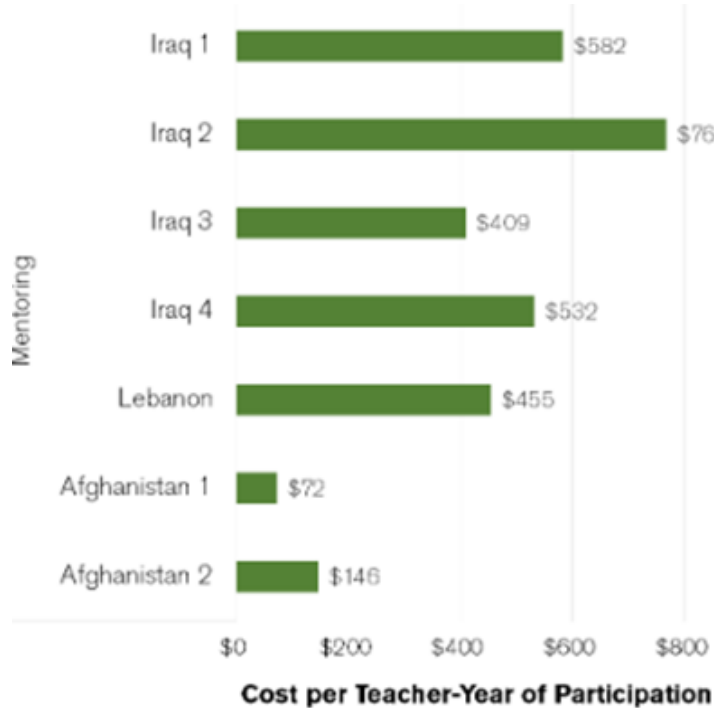
- How much did this program cost per output delivered?
- How does that cost per output change, if I changed my delivery plan/rollout strategy? How might results change?
- How does that compare to other delivery methods?

What Data Will We Need?

- Expenditure and contributions reports disaggregated by cost categories;
- Output counts, using common indicator for all programs, disaggregated by delivery methods.

Cost-efficiency analysis

Cost-Efficiency of Teacher Learning Circles and Coaching (*IRC data*)



Cost-effectiveness analysis

What Questions Will It Answer?

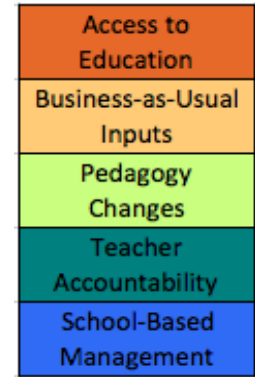
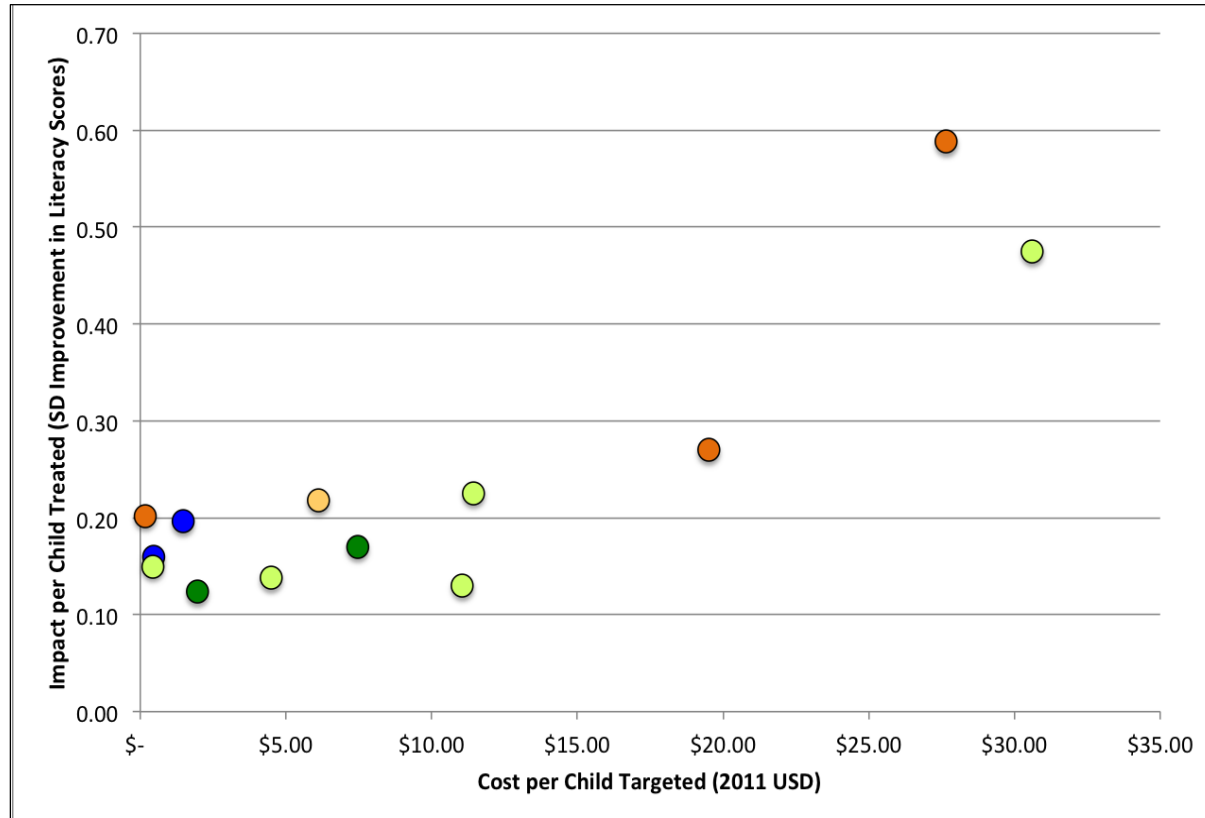
- How much did this program cost per outcome delivered?
- How does that compare to other interventions I could fund instead?

What Data Will We Need?

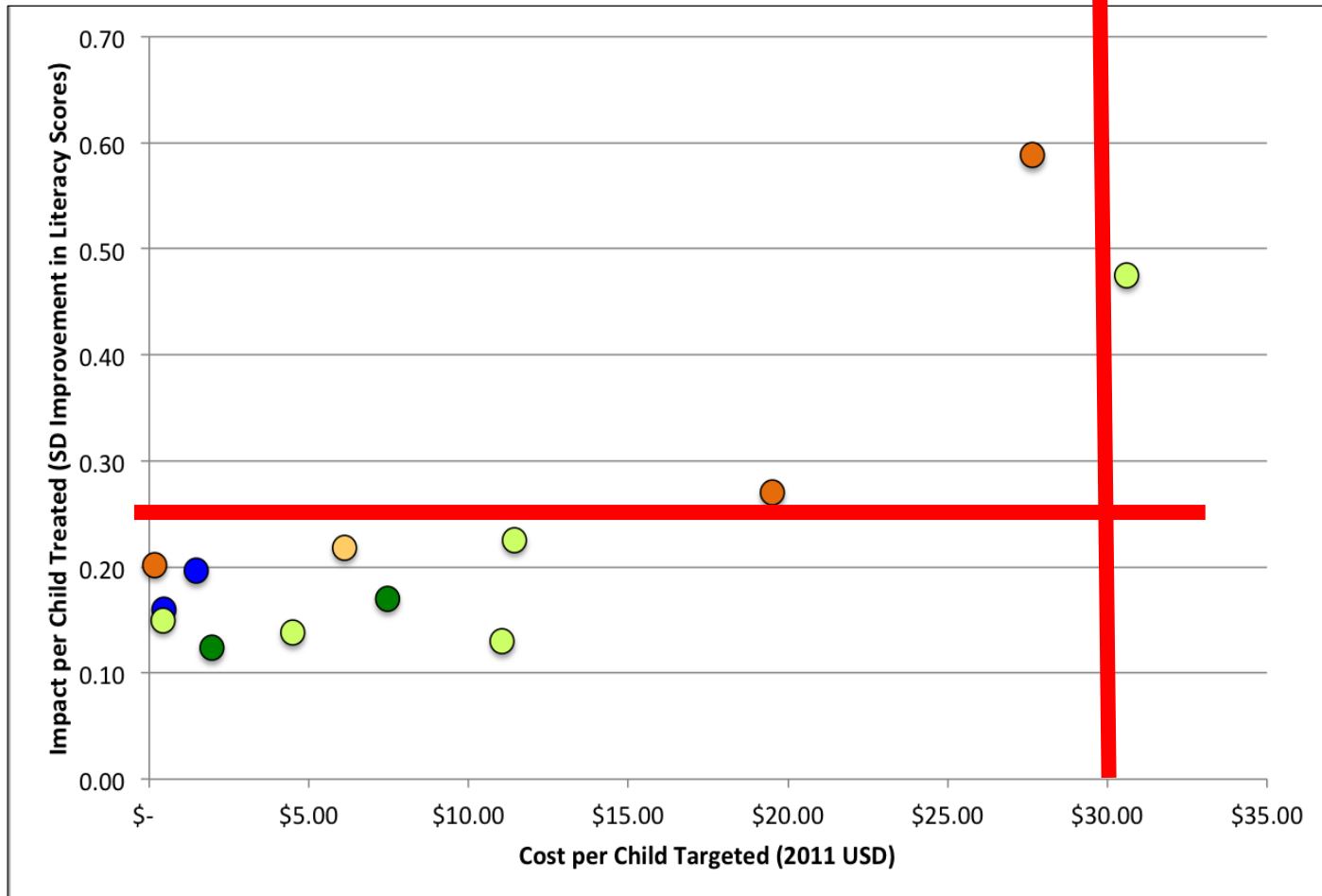
- Expenditure and contributions reports, disaggregated
- Credible estimates of program's impact
- Credible estimates of the cost-effectiveness of alternative interventions with the same outcome of interest

Cost-effectiveness analysis

Cost-Effectiveness of Interventions to Improve Student Literacy (Kremer et al, *Science*)



Cost-effectiveness results for decision-making



Access to Education
Business-as-Usual
Inputs
Pedagogy Changes
Teacher Accountability
School-Based Management

Cost-Benefit/Rol Analysis

What Questions Will It Answer?

- How did the costs of this program compare to the monetary value of the benefits created?
- What assumptions/features cause the net benefit to be higher or lower?

What Data Will You Need?

- Expenditure and contributions reports, disaggregated
- Credible estimates of program's impact on (multiple) outcomes.
- Economic valuation of the long-term benefits of the program

\$\$ OR

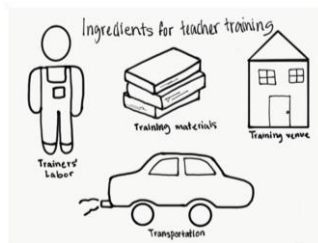


Image credit: Eimear de Bhaile

Using cost data analysis results

Assess which features drive program costs and impact results
in programs across contexts

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Cost-economy:

analysis of local pricing for goods and labor; price response to scale

Use information for **estimating the level of needed investment**; for planning **sustainment**

Using cost data analysis results

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Cost-efficiency:

analysis of contextual features which drive efficiency (various barriers to implementation, local capacity)

Use information guide investment decisions given **context, scale, and existing capacity**

Using cost data analysis results

Assess which features drive program costs and impact results in programs across contexts

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Use information for **estimating the level of needed investment**; for planning **sustainment**

Cost-efficiency:

analysis of contextual features which drive efficiency (various barriers to implementation, local capacity)

Use information guide investment decisions given **context, scale, and existing capacity**

Cost-effectiveness:

analysis of intervention features associated with results (intervention dosage, number of outcomes, characteristics of beneficiaries)

Use information to guide **intervention model selection** given the objectives and the level of available resources

GROUP DISCUSSION QUESTIONS

- Review your cost analysis questions. Which cost analysis methods you will need to use to answer them?
- What additional cost analysis questions might be useful for helping sustain the project beyond USAID funding?
- (if time left) Discuss project and context features that are likely to affect cost. Be specific! How can cost measurement throughout implementation help you figure out cost drivers and control them? How else can cost measurement help you?

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COST ANALYSIS GUIDANCE FOR USAID-FUNDED EDUCATION PROJECTS



Guidance Part 1: Overview for USAID, Managers

- Types of cost questions
- Cost analysis methods
- Learning from cost analysis results
- Applying cost analysis results to another context: practical guide

Guidance Part 2: Applying cost analysis methods to USAID programs

Step 1: Conduct data check

Step 2: Map cost analysis objectives/questions to data

Step 3: Develop data analysis plan

Step 4: Preparation for data analysis

Step 5: Implement the analysis

Step 6: Report the results

Step 1: Conduct data check

The first step in preparing for analysis is to perform a preliminary data check. The purpose of the preliminary data check is to:

- Ascertain the availability and limitations of reported cost, activity, and evaluation data
- Check the availability of data for comparative analyses
- Assess the scope of available data needed to estimate costs, and
- Determine what, if any, data are missing

Step 1: Conduct data check

If the cost analysis objectives and questions are already well-defined, analysts can use the preliminary data check to see if the proposed ideas are feasible and to determine the scope of the costing exercise.

Step 1: Conduct data check

To begin, collect and review the following the key program documents. For each activity, review:

- Cost reporting manual
- Financial reports
- Contributions details (using worksheets for reporting host government and non-government contributions from the CRG).
- Intervention details (using worksheets from the CRG).
- Other relevant documents

Step 1: Conduct data check

The preliminary data check is more complex if you are planning to assess multiple data sets for comparability.

Depending on the type of comparison, you may need to check for consistent reporting of expenditure, contributions and intervention details, as well as the implementation context across numerous programs.

Step 2: Map cost analysis objectives/questions to data

This step focuses on the preparation for the cost analysis. It involves analytical prep work that will ensure the results of cost analyses are useful for the strategic and operational objectives, and there is no mismatch between objectives, questions, and available data.

This step may involve the following activities: consultations with stakeholders (e.g., USAID officers, national government representatives, implementing partners, etc.), revisions of the questions based on the improved understanding of the strategic and operational objectives behind the questions, revisions of the questions based on the review of the available data.

Step 2: Map cost analysis objectives/questions to data

This step operates with three main components: cost questions, objectives/purpose for the questions, and data. Examples questions are:

- How much does it cost to improve reading in primary grades in this country?
- How cost-effective is coaching for math teachers?
- How different the costs are of building a school in a central location versus remote location?
- How much does the alternative basic education program cost for the partner government to sustain after the end of USAID-funded activity?
- How much does it cost to help marginalized girls stay in school?
- How much does it cost to continue printing books in mother tongues developed by the USAID activity, annually?

Step 3: Develop data analysis plan

The analysis plan documents the education activity or activities to be costed and the planned steps for collecting and analyzing data.

Step 3: Develop data analysis plan

1. Develop analysis plan

- Description of cost analysis questions and the underlying objectives
- Description of the education activity/ies being analyzed, of beneficiaries and of any context factors that may directly affect the cost of inputs
- Description of data sets to be used in the cost analysis
- List of the costs that will be included in the analysis
- List of the key outputs and outcomes that will be included in the analysis
- Description of the method of analysis that will be applied to answer different cost questions.

Step 3: Develop data analysis plan

2. Assess comparability of data and evaluate feasibility of analysis using a data inventory

- Expenditure reports to identify ingredients
- Intervention details to record dosage, output and outcome metrics
- Government and non-government contributions, user and beneficiary costs to document Record frequency and completeness of government contribution information, user and beneficiary costs

Step 3: Develop data analysis plan

3. Select methods based on your costing objectives, cost analysis questions and available data

a. Cost-economy and Sustainability Analysis

Required data - The selected data sets must report data at the required level of disaggregation in order map out the cost structure of an activity in accordance. For sustainability analysis, you will need:

- Detailed cost data by ingredient,
- Sub-ingredient (breakout of variable and fixed costs, and
- Ideally, line-item reporting of costing inputs such as the number of labor units that were used (e.g., the precise number of teachers, teaching assistants, trainers, and volunteers)

Step 3: Develop data analysis plan

b. Cost-efficiency analysis

Required data - The selected data sets must report dosage and output metrics so that you can calculate unit costs.

c. Cost-effectiveness analysis

Required data - Requires two or more programs with identical outcome measures of effectiveness, and outcome measures generated from an impact evaluation of the educational activity.

Step 4: Preparation for data analysis

This step describes the procedures to place a value on non-pecuniary ingredients, and to ensure the comparability of costs paid for in different currencies (e.g., Guatemalan Quetzals, and US Dollars), and different years (e.g., 1999 and 2010), and costs that are spread over time (i.e., amortized and depreciated).

Step 4: Preparation for data analysis

1. Placing value on non-pecuniary ingredients
 - a. Shadow prices for contributions (Volunteer and free labor; Travel and transportation; Donated goods inclusive of equipment; Donated facilities)
2. Amortization and depreciation (i.e., spreading the cost of tangible and intangible assets over their useful lives)
 - a. Expenditures on tangible and intangible assets whose benefits last three years or more
 - b. Straight line method (i.e., cost, salvage value, useful life)
3. Harmonize data (i.e., a procedure used to place costs into common units to enable their comparative analyses)

Step 5: Implement the analysis

The goal is to build a worksheet and analyze costs.

1. Build worksheets for analyzing costs
 - a. Set up
 - b. Costing worksheets
 - c. Measurable outputs
 - d. Cost analysis output sheets

Step 5: Implement the analysis

2. Analyze the data

- a. Cost-economy and sustainability analysis
 - Total cost
 - Number of participants
 - Average cost per beneficiary
 - Basic level of cost
 - Marginal cost
- b. Cost efficiency analysis
 - Unit of output (dosage) per beneficiary
 - Cost per unit of output
- c. Cost effectiveness analysis
 - Cost-effectiveness ratio

Step 5: Implement the analysis

3. Sensitivity analysis (Optional)

- a. Best worst case (i.e., places extreme bounds on the results)
- b. Parameter variation (i.e., the most influential variables in the model are changed)
- c. Monte Carlo simulation (i.e., the distributions of variables are incorporated into the model)

Step 6: Report the results

Below are the general guidelines for the best practice in reporting the results of cost analysis.

1. Executive summary

Describe cost analysis objective, cost analysis questions, and the top-line results, including sustainability analysis results.

2. Description of the analyzed intervention or activity

Include intervention/activity name, country of implementation, activity start and end dates, and total USAID spent. Describe intervention/activity purpose, target (or actual) beneficiaries, and primary outputs and outcomes that were used to measure results

Step 6: Report the results

3. Description of the data [*can be an annex*]

- Describe cost data sets used, data sources, and missing data
- Describe results data used, data sources, and missing data
- Describe data preparation: procedures used to prepare the data. Include the base year, analysis year, method of currency conversion and source of exchange rate data used in the analysis. Specify price index that was applied, amortized costs. Explain rationale for discounting costs, the base year, analysis year, and social discount rate that was applied to the cost stream. Explain the process of preparation of cost variables.

Step 6: Report the results

4. Description of the methods [This section can be moved to an Annex of the report]

Describe methods used to allocate costs to activities, constituencies, or across beneficiaries. Describe cost analysis methods selected to answer specific cost analysis questions; list cost calculations and assumptions.

5. Presentation of the results

The presentation of the results should be organized by cost analysis questions. The findings should be presented in easy to understand narrative, using helpful visuals, if possible.

Producing Cost Analysis Guidance:

- Present the approach at CIES (April 2019)
- Finish the draft (April/May 2019)
- Gather input from the cost analysis advisory group (May/June)
- Circulate with the ESC (May/June)
- Present to Missions (webinar – summer 2019)
- Finalize the draft (summer 2019)
- Clear and publish on edulinks (fall 2019)
- Conduct training workshops for evaluators (via DEEP – fall/winter 2019)
- Conduct training for USAID (integrate into existing courses, ongoing)