



Photo Credits: The International Rescue Committee

EDUCATION COST EFFECTIVENESS BRIEF – Pakistan Reading Project

Pakistan | 2022

Executive Summary

From 2013 through 2020 the International Rescue Committee (IRC) and partners joined with the Pakistan Ministry of Education to implement the Pakistan Reading Project (PRP), which reached 1.78 million students across seven provinces. This analysis examines the costs of implementing PRP for a two-year cohort of the project in one province, Khyber Pakhtunkhwa. The analysis separates out the “fixed” costs of program management, from the costs of four components: reading and learning materials, face-to-face training for teachers, teacher inquiry groups, and school support visits.

Approximately half of all costs for PRP cohort three were spent on fixed costs such as NGO operating costs and support staff. The magnitude of these coordination and support costs suggests the need for support and coordination will not simply ‘disappear’ when PRP is handed over to the Ministry of Education. The costs of support and coordination will likely be different for the government than for the IRC and should be explicitly considered in scale planning.

The full package of PRP services cost \$1,518 per school, the equivalent of roughly \$45 per student given the average class size in this sample. Using cost and impact data together allowed researchers to isolate which components contributed the most per dollar spent, to student literacy outcomes. The most cost-effective package of services included reading and learning materials, face-to-face trainings, and school support visits on top of basic program operations.

Project Description

From 2013 to 2020 the International Rescue Committee and partners implemented the Pakistan Reading Project (PRP) in collaboration with the Ministry of Education. The project was developed to address key concerns in early reading achievement. At the time, only 51% of grade three students in Pakistan could read sentences, while only 55% of grade five students could read a story at grade two reading level.¹

From 2013 through 2020, the Pakistan Reading Project supported 1.7 million children in grades one through five across seven provinces to improve their reading skills. The project had three areas of work:

- *Improved classroom learning environment for students*

This area focused on the development and distribution of reading learning materials and teacher professional development.

- *Improved policies and systems for reading*

In partnership with the provincial and regional governments, the PRP team supported the development of new reading policies including the adoption of reading improvement strategies and reading assessments.

- *Improved community support for reading*

To ensure community ownership of reading improvements, in this area PRP awarded 161 small grants to parent-teacher associations and local NGOs to host literacy activities, engage in parent sensitization, and work with children who were visually impaired.

PRP was implemented in several cohorts. The third cohort included a randomized controlled trial focused entirely on activities within Component One. This cost-effectiveness analysis was completed to complement the evaluation findings.

PRP: Evaluated Components

The impact evaluation investigated five components provided within the 'improved classroom learning environment' area of work, which were believed to be important for improving reading for children in grades one and two.

Reading Learning Materials (with tablet)

- PRP produced a complete package of reading and learning materials specific to each grade and language. These included lesson plans, student workbooks, flashcards, charts, level readers and 'Big Books' for group reading activities.

Teacher Face-to-Face Training

- Teachers received a five-day training during the first year of the cohort and a three-day training during the second year. Both were focused on how to use the provided materials.

Teacher Inquiry Groups (TIGs)

- Monthly meetings of 3 hours each over two academic years (17 in total) were facilitated by PRP and government staff. Teachers met to share best practices and learn from each other. Module booklets, travel stipends and refreshments were provided.

School Support Visits

- Each teacher was visited twice per quarter by PRP or PRP-trained government staff to receive in-person support and mentorship.

Corner Libraries

- School classrooms received a set of age-appropriate story books to allow students to practice their reading individually.

Project Costs

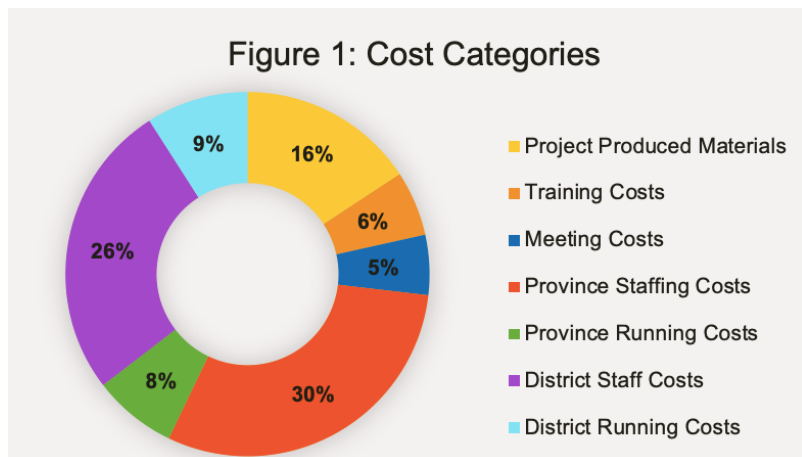
This brief examines the costs associated with the implementation of the five components included in the evaluation (see box above) within cohort three of the Pakistan Reading Project. Importantly, the cost estimates exclude several items:

- Content development costs - as the content included and distributed in cohort three was developed five years earlier for cohort one, these costs are not included. Therefore, these cost estimates represent the costs to continue an existing program, but not the start-up costs which might be necessary to start up a program in a new country.
- Opportunity costs of unpaid time - while PRP provided stipends to persons who participated in the key activities (trainees, mentors, teachers), these were typically individual flat-rate costs. It is possible that some participants used additional time beyond that which was paid for within the stipend to familiarize themselves with the materials and individually take actions that improved the program.
- National-level costs of program management – because the focus of this analysis was to understand the province-level costs to continue the program, national-level resources—which mostly focused on donor relations and coordination across provinces—were not included.

Pakistan Reading Project Costs

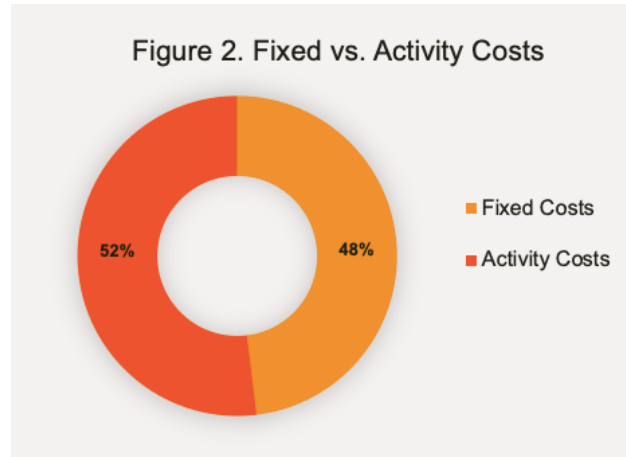
Two years of PRP implementation in Khyber Pakhtunkhwa cost approximately 2.76 million dollars and reached 1,816 schools with approximately 61,500 students. This is \$1,518 per school and \$45 per student.

The two largest spending categories were for province staff (30%) and district staff (26%). This is not surprising as the foundation of PRP was training and equipping teachers to teach early-grade students, which is expected to rely heavily on human resources. And because of the large scale which the program reached—many schools in each district, and many students in each school—the cost-efficiency of the program was still high.



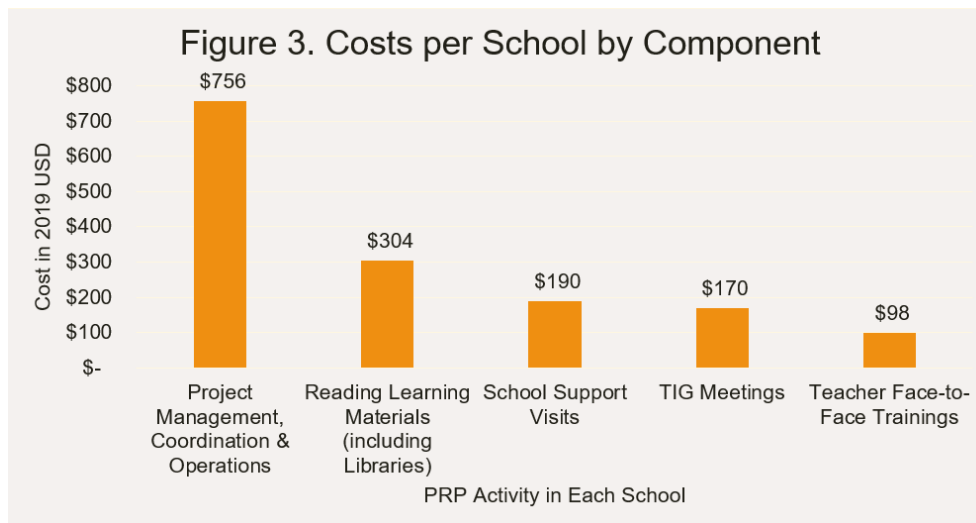
Approximately half of all costs for PRP were spent on “fixed” costs such as NGO operating costs and support staffing for KPK province. The costs of all school-level components together comprised only about half of the program cost.

This cost analysis looked specifically at the costs of a non-government organization running large-scale education programs. This type of program comes with a necessary and substantial cost to support the operational running costs of the organization. These “fixed costs” were largely for the staff and travel necessary to coordinate with the Ministry of Education at the province and local level. To successfully deliver literacy training and materials, project staff had to secure permission to operate in different districts, a recurring activity given the turnover in local authority staff. They also had to convene project staff and ministry partners, for instance at quarterly meetings, to review progress and plan joint activities.



The average cost of all components per school was \$1,518—reading and learning materials cost the most, at \$304 per school, while school support visits and teacher inquiry groups each cost about \$200 per school, and face-to-face trainings were \$100 per school.

By understanding the incremental costs of each of the components separately, NGO and government planners are equipped to calculate the cost of rolling out different packages of these components in future iterations of the program. Combined with data on the relative effectiveness of different components, we can draw conclusions about which package is likely to be the most cost-effective at improving literacy outcomes.



Results of the Impact Evaluation

The impact of the Pakistan Reading Project was studied in a randomized controlled trial which

identified the impact of different teacher professional development components on teaching practices and student reading outcomes.² The evaluation had four treatment arms, that compared the baseline-endline changes observed in three reduced packages that *lacked* one component with the changes observed in schools that received a full package of interventions (reading and learning materials, face to face trainings, school support visits, and teacher inquiry groups). Because there was no control group of schools that received zero services, the evaluation doesn't provide an overall estimate of the impact of PRP but instead focuses on the relative impact of each component.

- **Face-to-face training** – Students in “full treatment” schools, which received all 4 school-level components, had reading comprehension scores *0.42 standard deviations higher* than students whose teachers had not received face-to-face training but who had access to three other supports (reading and learning materials, school support visits and teacher inquiry groups). Their teachers showed improvements in all instructional practices, in the range of .05 to .65 standard deviations.
- **School support visits** – Adding SSVs led to the most consistent and largest improvements in all student reading outcomes and all teacher instructional practices. Students in “full treatment” schools had reading comprehension scores *0.69 standard deviations higher* than students whose teachers did not receive SSVs but had access to three other supports (reading and learning materials, face to face training and teacher inquiry groups). This is a strikingly different result compared to another IRC evaluation, which found that teacher coaching in Nigeria reduced student test scores, because of gaps in coaches’ content knowledge³. Teachers in this group showed large improvements in their instructional practices, in the range of .58 to 1.10 standard deviations.
- **Teacher inquiry groups** – Students in “full treatment schools” had reading comprehension scores *0.79 standard deviations lower* than students whose teachers had not participated in TIGs, but who received three other supports (reading and learning materials, face to face training and school support visits). Qualitative research and monitoring data suggests that TIG implementation may have suffered because of the time demands it placed on teachers, but also that there had been sharing of TIG materials to other treatment groups which could bias the impact estimate.

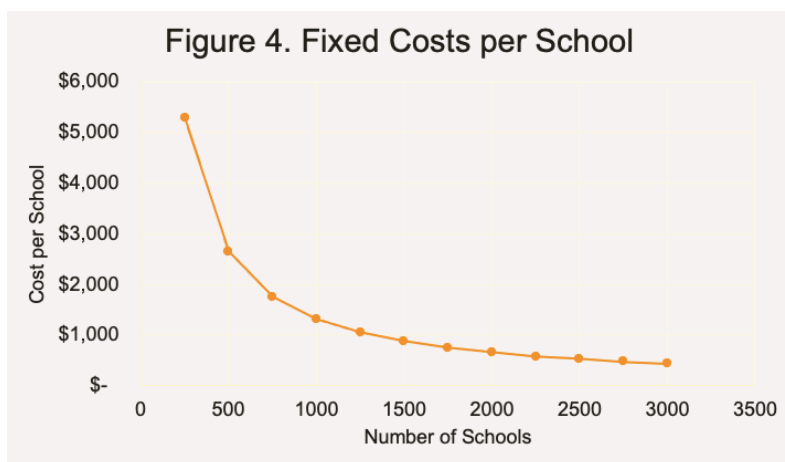
All results were statistically significant at the $p < 0.1$ level

Cost Effectiveness Findings

As with any project, but particularly with projects such as PRP where a large portion of costs are fixed, scale is imperative to enable cost effectiveness.

As reported above, nearly half of the costs to implement PRP in Khyber Pakhtunkhwa were fixed costs for management and operations at the district level. As such, the cost per school (and per student) decreases dramatically as the program scale increases to reach more schools per district. This effect of economies

of scale should be strongly considered in these types of education programs. As Figure 3 shows, the



average fixed cost per school drops from over \$5,000 for a district with 250 schools to under \$1,000 for a district with 1,500 schools.

Fixed costs will not ‘disappear’ when the PRP is handed over to the Pakistan Ministry of Education, but they likely will not be the same as the IRC fixed costs.

This cost analysis provides an example of what fixed costs may be necessary to run large-scale education programs in a complex operating environment, in this case in Pakistan through an NGO-government partnership. However, when the project is handed over to the Ministry of Education, these fixed costs will likely be different as the Ministry has different operating and staffing costs. What is important to remember is that a project as large as PRP will need its own management structure and thus these operating costs should not be assumed to be absorbed by existing Ministry budgets.

The most cost-effective package of services included reading and learning materials, face-to-face training, and school support visits but not teacher inquiry groups.

Face-to-face training is often considered the backbone of teacher development programs, and this study demonstrates that when focused on literacy and aligned with continuous professional development opportunities it can be cost-effective: In Pakistan, adding face-to-face training to a professional development program cost only \$100 per school and increased student reading comprehension scores by a substantial 0.42 standard deviations. School support visits, similar to “teacher coaching” programs evaluated in wealthier countries, were also a highly cost-effective addition to the program—they cost roughly twice as much as face-to-face training and provided an additional 0.69 standard deviations of improvement in student reading comprehension. The most cost-effective package of services for the Pakistan context, including reading and learning materials, face-to-face trainings, and school support visits on top of program management would cost \$1,348 per school.

All costs are specific to the Pakistan context. Even if the ‘ingredients’ required to run an effective reading intervention stay the same across different contexts, the prices of inputs will differ, leading to different costs.

All cost analyses struggle with external validity as price levels differ across, and even within, countries. As such, it is key for program planners to be guided by the ingredients required as well as input prices in their own context (see Ingredients List in annex) when planning future programs. Transparency with detailed cost data, above and beyond the publication of final cost-effectiveness results, is critical to make such detailed reflection possible.

Analysis Method: Cost-Effectiveness at the IRC

The IRC is committed to maximizing the impact of each dollar spent to improve our clients' lives. Cost effectiveness analysis compares the costs of a program to the outcomes it achieved (e.g., cost per diarrheal incident avoided, cost per reduction in intra-family violence). Conducting cost effectiveness analysis of a program requires two types of information:

- 1) An impact evaluation on what a specific program achieved, in terms of outcomes
- 2) Data on how much it cost to produce that outcome

Teams across the IRC produce a wide range of outcomes, but cost effectiveness analysis requires that we know - based on impact research - exactly which outcomes were achieved and how much they changed, for a given program. For example, an impact evaluation might show a village that received IRC latrines and hygiene promotion had a 50 percent lower incidence of diarrhea than a village next to it which did not receive the IRC intervention. If so, we know the impact of our program: 50 percent decrease in diarrhea incidence. Cost effectiveness analysis becomes possible only when there is an impact study that quantifies the change in outcomes as a result of the IRC project.

At the same time IRC runs impact evaluations, we gather data on how much the evaluated program costs. First, IRC staff build a list of inputs that were necessary to implement the evaluated program. If one thinks of a program as a recipe, the inputs are all the 'ingredients' necessary to make that dish. Budgets contain a great deal of information about the ingredients used and in what quantities, so reviewing the program budget is the first place to start. However, many of the line items in grant budgets are shared costs, such as finance staff or office rent, which contribute to multiple programs, not just the one included in the impact evaluation. When costs are shared across multiple programs, it is necessary to further specify what proportion of the input was used for the particular program. Specifying such costs in detail, while time-consuming, is important because it provides lessons about the structure of a program's inputs. We can divide costs into categories and determine whether resources are being allocated to the most important functions of program management and enable us to model alternative program structures and quantify the cost implications of different decisions.

¹ "Annual Status of Education Report". South Asian Forum for Education Development, January 2014. http://aserpakistan.org/document/asfer/2013/reports/national/ASER_National_Report_2013.pdf

² Keaveney, Erika; Fierros, Carlos; Rigaux, Alexander; Pepitone, Paige; Mittelberg, Tara; and Menendez, Alicia. Pakistan Reading Project (PRP) 2020 Early Grade Reading Endline Assessment – Khyber Pakhtunkhwa. April 2021. USAID. https://pdf.usaid.gov/pdf_docs/PA00Z7MW.pdf

³ Hoyer, Kayla. 2019. "Education Cost Effectiveness Brief – Education in Emergencies." The International Rescue Committee.

This work was conducted by the Best Use of Resources Initiative at the IRC. For questions or more information please contact us at airbel@rescue.org.

Preferred Citation

Tulloch, Caitlin. 2023. "Education Cost Effectiveness Brief – Pakistan Reading Project." The International Rescue Committee.



Annex: Ingredients List

Pakistan | 2019 USD

Program Costs	Fixed Cost	TIGs	Reading Learning Materials	Teacher Face to Face Trainings	School Support Visits	Corner Libraries	Training Ministry Staff
District Staffing							
District Program Managers	67,694	10,977	2,744	2,927	10,977	1,830	-
RQA	53,890	89,817	44,908	29,939	179,634	29,939	-
Admin and Finance Officer	14,219	14,219	1,580	5,056	14,219	1,580	-
M&E Assistant	11,884	17,826	7,427	6,338	17,826	5,942	-
Salary Support Staff	-	10,579	-	3,761	10,579	1,175	-
Guards	25,145	-	-	-	-	-	-
Classroom Support- Mentors	-	8,063	-	1,613	22,576	-	-
District Running Costs							
Office R&M	5,519	-	-	-	-	-	-
Utilities	4,942	-	-	-	-	-	-
Rental Vehicles	14,953	24,922	12,461	8,307	49,843	8,307	-
POL for Vehicles	4,791	7,985	3,993	2,662	15,971	2,662	-
Vehicle Rental	126	210	105	70	420	70	-
Office Stationery	17,619	-	-	-	-	-	-
Communication (telephone, internet)	3,720	-	-	-	-	-	-

Office and equipment maintenance	1,148	-	-	-	-	-	-
District Close Out Cost	1,234	-	-	-	-	-	-
Miscellaneous	1,006	-	-	-	-	-	-
Office Furniture	2,940	-	-	-	-	-	-
Laptops	47,446	-	-	-	-	-	-
Generator	5,259	-	-	-	-	-	-
UPS (1500 KVA)	895	-	-	-	-	-	-
Rental Vehicles (3 for one office)	392	-	-	-	-	-	-
Reading Learning Materials							
Student Workbooks – Grade 1	-	-	58,468	-	-	-	-
Big Books – Grade 1	-	-	552	-	-	-	-
Syllable Chart- Grade 1	-	-	2,513	-	-	-	-
Flash Cards (sight words) – Grade 1	-	-	1,543	-	-	-	-
Cardboard Box – Grade 1	-	-	5,884	-	-	-	-
Scripted Lesson Plans – Grade 1	-	-	552	-	-	-	-
Student Workbooks – Grade 2	-	-	4,613	-	-	-	-
Big Books – Grade 2	-	-	55,949	-	-	-	-
Level Readers- Grade 2	-	-	8,190	-	-	-	-

Flash Cards (sight words) – Grade 2	-	-	3,503	-	-	-	-
Cardboard Box – Grade 2	-	-	1,683	-	-	-	-
Scripted Lesson Plans – Grade 2	-	-	3,166	-	-	-	-
Training Manual for Teachers	-	-	1,758	-	-	-	-
Training Handouts for Teachers	-	-	3,004	-	-	-	-
Manual for Acad. Supervisor	-	-	-	1,185	-	-	-
Training Handout- Acad. Sup.	-	-	-	991	-	-	-
Training Manual for Mentors	-	-	-	-	-	-	76
TIG Modules	-	-	-	-	-	-	55
Tablet	-	31	-	6	86	-	-
Corner Library Costs	-	3,777	-	-	-	-	-
Trainings							
Training of Teachers	-	-	-	113,873	-	-	-
Training of Academic Supervisor	-	-	-	-	-	-	6,181
Training of Head Teachers	-	-	-	-	-	-	19,907
Training of Mentors	-	4,761	-	952	13,331	-	-
Meeting Costs							
Travel for TIG Meetings	-	79,474	-	-	-	-	-
Refreshments for TIG Meetings	-	22,454	-	-	-	-	-

TIG Training Materials	-	11,141	-	-	-	-	-
Quarterly Review Meeting	-	3,107	-	621	8,698	-	-
Head Teachers Strengthening-C3	-	-	-	-	-	-	17,564
Head Teachers – QTR Review Meetings – C3	-	-	-	-	-	-	3,883
Province Staff Costs							
Program Staff (General)	139,089	-	-	-	-	-	-
Professional Development Staff	150,876	-	-	-	-	-	-
M&E Staff	106,457	-	-	-	-	-	-
Finance Staff	57,135	-	-	-	-	-	-
Other Ops Staff	285,888	-	-	-	-	-	-
Office Support Staff	52,218	-	-	-	-	-	-
Drivers	43,208	-	-	-	-	-	-
Province Running Costs							
Office Rent/Utilities/Maintenance/General	67,507	-	-	-	-	-	-
Security Guards	12,407	-	-	-	-	-	-
Phone / Fax	527	-	-	-	-	-	-
Internet	5,713	-	-	-	-	-	-
Postage, Courier	1,203	-	-	-	-	-	-
Office Stationary, Supplies	18,537	-	-	-	-	-	-

News & Periodicals	527	-	-	-	-	-	-
Equipment Maintenance	5,319	-	-	-	-	-	-
Stakeholders Meetings	778	-	-	-	-	-	-
Security Enhancement	6,728	-	-	-	-	-	-
Vehicle Fuel, Insurance & Maintenance	14,200	-	-	-	-	-	-
Rental Vehicle	853	-	-	-	-	-	-
Bank Charges	273	-	-	-	-	-	-
Recruitment- Local	458	-	-	-	-	-	-
IT & Office Equipment	30,052	-	-	-	-	-	-
Province Travel Costs - Staff	20,172	-	-	-	-	-	-
Lodging for District Staff Meetings	20,643	-	-	-	-	-	-

National Running Costs

Technical Director – Teacher Training	-	-	-	30,427	-	-	5,370
Development of Library Materials	-	-	-	-	-	76,000	-
Salaries: Material Development Staff	-	18,981	107,560	-	-	-	-

TOTAL	\$1,325,590	\$309,342	\$426,977	\$178,302	\$344,160	\$126,179	\$47,667
Schools (n)	1816	1816	1816	1816	1816	1816	1816
Marginal Cost per School	\$730	\$170	\$235	\$98	\$190	\$69	\$26