EAGER SCENARIO MODEL BRIEF - Education Program through Local Ministries

Sierra Leone| 2022

From 2019-2022, the Every Adolescent Girl Empowered and Resilient (EAGER) project was implemented in Sierra Leone with the aim of empowering out-of-school (OOS) girls ages 13-19 through a learning program that integrated functional literacy, numeracy, financial literacy, and life skills. The International Rescue Committee's (IRC) Best Use of Resources (BUR) team developed a scenario model to understand the cost structure of EAGER and maximize efficiency as the program scales to reach more girls in more communities.

Use-Case for the Sierra Leone Scenario Model

BUR developed a scenario model to support advocacy efforts for the EAGER intervention to facilitate access to education and life skills for OOS adolescent girls. The EAGER functional learning model will be handed over to the Sierra Leone government in February 2023. The scenario model will help stakeholders to assess the case for program sustainability and clarify the cost of scaling.

Existing Program Used for the Sierra Leone Scenario Model

IRC worked through a consortium of NGOs to implement a girls' education and empowerment program in 10 districts throughout Sierra Leone. EAGER provides safe spaces for adolescent girls to continue education in literacy and numeracy, financial literacy training, life skills and assistance to produce Empowerment Plans outlining how they would apply their new skills. EAGER continued to provide mentorship and resource support as the girls transitioned out of the learning segment of the program, at which point the girls would begin implementing their Empowerment Plans.

Cost Question(s) addressed through the scenario model:

- What is the anticipated cost for government to recruit, train, coach, supervise, and pay community-based volunteers (mentors and facilitators) to deliver learning sessions and lead community outreach to support girls' education and empowerment in Sierra Leone?
- How does cost per girl change when: 1) Only basic literacy and numeracy (BLN) sessions are implemented vs. both BLN and Life Skills? 2) Consultants are hired to adapt curriculum? 3) Tablets are used for monitoring implementation?
- How does cost-efficiency change as the program "scales up"? What is the recommended minimum level of scale for the government to maximize cost-efficiency?

Key Findings

- Given that staff and volunteers are the largest cost of the program, optimizing staff structure will be critical to maximizing value for money.
- Resources spent on training and continuous professional development for volunteers are likely to be good value-for-money, as they account for less than 13% of program spending but are a key component to maximize impact.
- The cost per girl falls as the program scales up, but it levels off once the program reaches 50 girls per community, at £431 per girl. Empowerment packages and conditional cash transfers shift the cost per girl to £473 and £484, respectively. Use of tablets induces only a £6 difference, whereby monitoring using paper equates to £425 per girl, verses monitoring using tablets at a cost of £431 per girl.

Introduction

Throughout Sierra Leone, poverty, early/forced marriage, the Ebola Virus Disease (EVD) outbreak of 2014-2016 have created barriers to education for adolescent girls.[i] As a result, many girls never attend school or drop out after a few years because they do not have financial or social support. Girls without access to education experience greater levels of poverty, food insecurity, and further degradation of their personal agency for decision making, a situation reinforced by community perspectives on gender roles and norms.

To address these concerns, the International Rescue Committee (IRC) and consortium partners[1] implemented the EAGER program from 2019-2023. The program creates opportunities for OOS girls ages 13-19[2] to build functional[3] skills in literacy, numeracy, financial literacy, and life skills while strengthening their social and emotional assets and sense of agency in shaping their lives.

To understand how implementation costs are affected as the program grows, the Best Use of Resources (BUR) built a scenario model to programmatic cost at scale. The model will support advocacy efforts for the adoption or adaptation of components of the program by stakeholders[4] who may be interested in continuing or replicating implementation. Implementation by the government or other stakeholders will ideally build upon the curriculum produced by the consortium, however contextualization costs may be needed to adapt content. Other adaptations could be considered such as the choice to include additional support for the girls, such as the empowerment packages and conditional cash transfers. To inform this decision process, the scenario model focuses on how costs change with and without the inclusion of these support packages.

EAGER Activities

The components of EAGER assessed in this scenario model include:

1. Coaching and building capacity of community volunteers is one of the primary components of the EAGER intervention. This includes initial recruitment, and ongoing training, coaching, supervision, and payment of community-based volunteers for learning and empowerment of OOS adolescent girls.

2. Safe spaces and learning includes functional literacy, numeracy, and life skills learning program for 11-months. The girls receive financial literacy curriculum to strengthen financial and entrepreneurship skills. At this time, the girls write up empowerment plans including goals for themselves regarding personal learning, empowerment in the household, community, and their financial autonomy.

3. Transition period is an 8-month period during which girls are provided mentorship and support as they begin to implement their empowerment plans. Girls are encouraged to create Girls Clubs where they can gather and provide support to one-another.

4. Additional support provided during the transition period, includes empowerment packages and conditional cash transfers. Empowerment packages include items to support the girls' health, safety and hygiene. Conditional cash transfers were given to support girls in their Empowerment Plans.

[1] The consortium included: the International Rescue Committee (IRC), Concern Worldwide (CWW), Restless Development (RD) and BBC Media Action.
[2] Due to a three-month program suspension during COVID-19, as well as an extension of the Cohort 1 Learning Program to ensure safe space groups complied with COVID-19 guidelines, EAGER decided to expand the age group in from 13-17 in Cohort 1 to 13-19 in Cohort 2 so that girls who would have been 17 at the originally scheduled Cohort 2 start would still have access and benefit from the learning program.
[3] Functional learning focuses on preparing learners to function in their communities, particularly when learners have little or no formal education. It builds on knowledge the girls already have and focuses on providing skills to solve real-world problems.
[4] Stakeholders may include the Ministry of Basic and Senior Secondary Education (MBSSE), Ministry of Gender and Children's Affairs (MGCA), as well as other implementing organizations.

While the EAGER program was comprised of five key components[5], the scenario model produced for the Government of Sierra Leone and stakeholders focused only on elements that have most potential to be replicated, including safe spaces, the learning program, and transition.

The success of the program is expected by program staff to hinge on safe spaces and the quality of the cascaded training and professional development undertaken to equip and train community-based volunteers who deliver all components of the program to the adolescent girls. Mentors (all female) and facilitators (male and female) are initially trained, supervised, and coached by Project Officers.[6]

A refresher training occurs before the start of the transition period. During this period the mentors continue to encourage the girls to work on their Empowerment Plans, and facilitators proceed in delivering the financial literacy curriculum. Mentors continue to check-in with the girls during this period to provide motivation and support.

The model produced is based on costs budgeted for implementation from 2019-2022[7] in 3 neighboring districts of Sierra Leone: Bo, Kenema, and Kono. While learnings from this model may inform implementation costs in other districts of the country, additional qualitative information about other districts should be considered during the planning phases to account for variations in access costs.

The EAGER program modalities covered in this scenario model are described below. These scenario models will equip the consortium to communicate how cost-efficiency could be achieved with scaling the program and allow users to explore change in cost per girl at various scales.

Figure 1. Program Modalities	
Basic Delivery Model	The 'basic delivery model' includes start-up costs such as the initial recruitment and training of staff and volunteers, curriculum adjustment of material shared with the MBSSE by the consortium (as needed), BLN and Life Skills training and delivery, and as well as the rehabilitation of safe spaces, access to learning funds, menstrual hygiene kits, GBV response funds, use of tablets for monitoring, as well as some transition related costs such as Girls Clubs.
Basic Delivery Model + Empowerment Package	The 'basic delivery model + empowerment package' includes the additional costs associated with provision of empowerment packages. Empowerment packages were in-kind provisions including a traditional cloth wrapper (lappa), plastic water bucket with lid, a portable solar-powered light, and a wooden cash box with a lock. The monetary value of empowerment packages was £31 each, intended to be small enough to avoid bringing significant risks to girls, yet relevant to the girls' needs.
Basic Delivery Model + Conditional Cash Transfer	The 'basic delivery model + conditional cash transfer' includes the additional costs associated with provision of the cash transfer of approximately £39 per girl.

[5] The EAGER intervention includes two additional components focused on community dialogues and social behavior changed focused on shifting community behavior toward gender norms. These two intervention components were not included in the scenario model.
[6] Life Skills (LS) Officers worked with Mentors and Basic Literacy and Numeracy (BLN) Officers worked with Facilitators, each supporting a cluster of 5 adjacent communities.
[7] This model is built on the budget allocated for the first cohort of the project, which started in 2019 and concluded in March 2022.

Scenario Analysis

When constructing the scenario model, BUR began with the EAGER Value for Money analysis[ii]. The project team was interested in understanding the likely cost per girl at scale for each of the three approaches listed above. This information will be used for advocacy about the EAGER program with government stakeholders and other practitioners, and will be produced by responding to the main cost question of interest:

> *What is the anticipated cost for government to recruit, train, coach, supervise, and pay community-based volunteers (mentors and facilitators) to deliver learning sessions and lead community outreach to support girls' education and empowerment?*

To understand which costs should be included in the model, BUR worked with the project team to identify the individual "ingredients" necessary to implement the program. The ingredients list was based on the IRC's experience in Cohort 1 and links the amount of resources needed to the number of girls and communities served. As described in the next section, the model functions as a calculator allowing users to explore overall implementation costs for the intervention at various scales, and the cost per community and girl reached.

The scenario model

Scenario models are user-friendly Excel workbooks that allow the user to modify key elements of the implementation model, context, and scale to return projected cost-efficiency results.

Within the workbook, users start with defining the delivery options,[8] indicating if start-up costs should be included, if consultants are used for curriculum adaptation, and what trainings will be implemented.

TABLE A. Delivery Options	
Include start-up?	Yes
Use of consultants for curriculum adjustment?	Yes
BLN, Life Skills, or both?	Both

Next, users can change the program parameters of interest,[9] such as the number of girls per community reached and number of communities. These parameter changes will adjust the number of staff and volunteers proportionally, keeping a "best practice" ratio of number of girls to volunteers. This ratio, based on program experience, suggests that for every group of up to 25 girls in a community, there is 1 full-time facilitator, 2 full-time mentors, and 20% of a program officer's time from the implementing organization.

TABLE B. Program Parameters		
Parameters that Impact Intervention Cost	**Units**	**Label**
The Program		
Months of Program Start-up	6	*months*
Months of Program Implementation	12	*months*
Targets		
Number of Girls Clubs	90	*Girls clubs*
Number of Safe Spaces (for Life Skills)	90	*safe spaces*
Number of Learning Spaces (for BLN)	90	*centers*
Number of Facilitators	180	*facilitators*
Number of Mentors	360	*mentors*

[8] Table A on the "Cost Model" sheet.
[9] Table B on the "Cost Model" sheet, instructions are provided in the sheet to indicate that only yellow cells in this table should be adjusted. Unhighlighted cells in Table B should not be adjusted as they are calculated by the yellow cells to ensure that numbers of staff and volunteers are adjusted proportional to the numbers of girls and communities reached

Number of BLN Officers	36	*officers*
Number of Life Skills Officers	36	*officers*
Avg. # of students per community	50	*girls*
Number of students	4500	*girls*
% of students with disabilities	4	%
Number of students with disabilities	180	*girls*
Trainings		
Length of Phase 1 ToT	5	*day(s)*
Length of Phase 1 Step Down Training for Facilitators/mentors	5	*day(s)*
Length of Phase 2 Refresher training for ToT	5	*day(s)*
Length of Phase 2 Step Down Refresher training for Facilitators/mentors	5	*day(s)*
Length of Safeguard + Protection Training	5	*day(s)*
Context		
Number of Districts	3	*districts*
Number of Communities per district	30	*community*
Number of Officers per community*	0.4	*officers*
Number of Facilitators per community (1 per 25 girls)	2	*facilitators*
Number of Mentors per community (2 per 25 girls)	4	*mentors*
Staffing		
Number of Trips per consultant	2	*trips*
Number of Trips per Implementation Staff	2	*trips (per month)*
National Staff Benefits %	25	%
Content Delivery		
% Surplus ordered of materials	10	%
Include Conditional Cash?	No	
Include Empowerment Package?	No	
Include Girls Clubs?	Yes	
New/rehabilitated safe spaces?	Yes	
Include Access to Learning Fund?	Yes	
Which Menstrual Hygiene Kit?	Yes	
Include GBV Response fund?	Yes	
Monitoring on paper or tablets?	Tablets	

**(0.2 per 25 girls, otherwise understood as LOE of 20% per 25 girls)*

Users can also adjust the number of days of training provided to community volunteers. However, the original number of 5-day long trainings included is based on best practice established by the project team and recommended by the project team to ensure quality training of the volunteers. Finally, additional content delivery options can be adjusted here, such as the inclusion of a conditional cash transfer, empowerment package, Girls Clubs, new or rehabilitated safe spaces, access to learning funds (to support girls with disabilities), menstrual hygiene kits, and GBV response funds (to support survivors to access GBV response services).

The above inputs will automatically combine with unit cost data in the Ingredients Table[10] to calculate the total estimated cost for EAGER. All inputs required to run the program are included in the Ingredients Table and were compiled from existing EAGER cost analyses. Once the ingredients were defined, BUR worked with the program coordinator to define the level of effort[11] required by staff and other resources and how each input was tied to the parameters and delivery methods.

[10] Table C on the "Cost Model" sheet.
[11] Costs informing this model assumed full-time staff equivalency derived from IRC budgets for Cohort 1.

Final cost estimates are presented as total program cost, cost per community, and cost per girl reached. The ingredients list in the Ingredients Table only provides the details of direct program costs. Shared program costs (including indirect cost recovery) were calculated based on percentages in the same context from previous analyses. In this model, 37% was used (based on the **EAGER Value for Money analysis**[iii]).

SUMMARY TABLE. Cost Projections		
Total Program Cost	**£**	**1,414,722**
Total Program + Support Costs	**£**	**1,938,169**
Cost per Girl	**£**	**431**
Cost per Community	**£**	**21,535**

The scenario model reflects the budgeted costs for Cohort 1 which took place in Sierra Leone from February 2019 – March 2022.[12] Costs estimates reflect programmatic implementation in three districts of Sierra Leone: Bo, Kenema, and Kono. While it is likely that economies of scale will manifest at a similar number of girls reached per community in other locations of Sierra Leone, the specific cost figures should not be extrapolated to other districts without consideration of the qualitative differences between districts. These differences could include geographic spread and barriers to entry and exit, which impact the price of travel and staff stipends.

Results

Assuming the program reaches 50 girls per community, across 90 communities, the total implementation cost for the Basic Delivery Model is just under £2 million, or £431 per girl. Assuming that future programs may use pre-existing buildings such a schools or other outbuildings conducive to learning environments, safe spaces and learning center costs are not substantial in this model. The scenario model findings reinforce that cost-efficiency is maximized when reaching 50 girls per community (2 groups of 25) given that fixed costs by community are spread across a larger number of girls. In cases where 50 girls cannot be reached, gains by scale may also be reached by spreading facilitators across neighboring communities. Concentrating implementation in a single area before spreading into other communities and districts will enable the program to maximize returns of resources spent on staff and volunteer salaries, stipends, transportation, trainings, and materials.

Of the many variables included in the scenario model, the concentration of girls per community had the greatest impact on the cost per girl served, reflecting a high volume of costs that are "fixed" per community served. The economies of scale start to level-off when 50 girls per community are reached (2 groups of 25 girls). Thinking about scaling strategies, greater cost-efficiency can be reached by "saturating" target communities up to this point, rather than serving smaller numbers of girls across a larger number of communities.

Program officers and volunteers' time drove overall program cost. These costs consist of salaries and trainings for officers, volunteer stipends,[13] cascaded trainings for volunteers, and continuous

[12] Distributions of empowerment and cash packages finished in September 2021, followed by two formal check-in points, in November 2021, and March 2022.
[13] Stipends for community volunteers (facilitators and mentors) are given to compensate for time and work with the girls.

professional development[14]. Either new or existing staff could be leveraged for this intervention, however full-time equivalency would be required.

Additional delivery components, such as empowerment packages and conditional cash transfers, have a marginal effect on the at-scale program cost—they should be considered for continuation if these components have substantial impacts on the intended program outcomes. If programmatic success hinges on inclusion of at least one of these additional delivery components, it is recommended to include the package that shows higher impact per dollar spent.[15] **Endline results** suggest that the empowerment packages connect the girls to their communities, however the evaluation indicates that there may be room for improvement in the contents of these packages. Endline results also showed that beneficiaries believed conditional cash transfers were a necessary input to implement Empowerment Plans. Therefore, given the negligible cost difference between empowerment packages and conditional cash transfers, future inclusion of one of these additional support packages should be based on which ever package has more evidence to support its impact on programmatic outcomes.[iv] Regardless of the additional delivery components, economies to scale for each of the three models are reached when the program exceeds 50 girls per community (2 groups of 25 girls).

Model	Additional cost per girl	Total cost per girl
Basic Delivery Model	-	£431
Basic Delivery Model + Empowerment Package	£43	£473
Basic Delivery Model + Conditional Cash Transfer	£53	£484

Conclusions and Application

Returns to scale are highly dependent on number of girls reached per community

The above model is based on a scenario where implementation takes place in the three districts of Bo, Kenema and Kono. In each district, 30 communities were reached and a range between 10-25 girls were reached per community.[16] As advocated by the project team, quality programming hinges on ensuring that there is an appropriate ratio of officers to volunteers, and volunteers to girls served. The model suggests that cost-efficient programming can be reached at scale for this key staff-to-volunteer ratio, and volunteer-to-beneficiaries ratio, under conditions of 50 girls (2 groups of 25 girls) reached per community.

Returns to scale are expected to manifest around 50 girls (2 groups of 25 girls) per community given that economies of scale are driven by spreading staff and volunteer associated costs across a benefit-maximizing number of beneficiaries. Therefore, although costs for reaching some communities may be higher than others, returns to scale are still expected so long as this minimum threshold of beneficiaries is reached. BUR recommends reaching as many girls as possible in one community before adding additional communities to maximize cost-efficiency, recognizing that there may not always be 50 girls to be reached in each community.

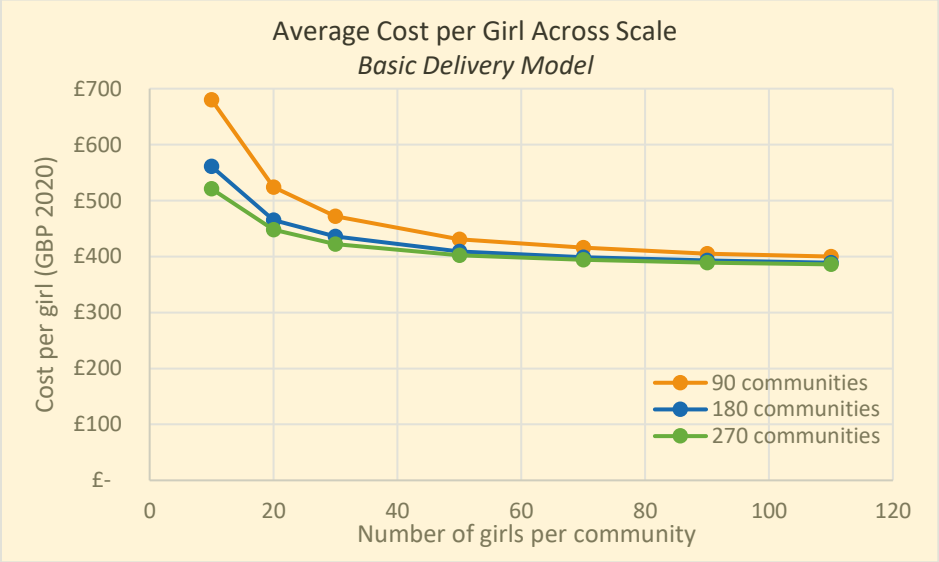
[14] Ongoing professional development includes peer-to-peer meetings for facilitators and learning clusters for mentors.
[15] While impact estimates were not yet produced for the EAGER intervention, monitoring data suggests the success of Cohort 1, and thereby potential cost-effectiveness. However, without concrete impact estimates this can only be hypothesized.
[16] Some communities in Cohort 1 may have had 2 groups, therefore exceeding 25 per community.

Reducing training days has minimal effects on cost

The scale model shows that cost changes incurred from adjusting the number of training days and ongoing professional development activities are relatively minimal. The cost model found that reducing the number of training days only has a marginally small effect on overall costs incurred and cost per girl (13% of total cost). Therefore, if the 5-day training is hypothesized to maximize impact and success of the program as "best practice", the cost model supports retaining this length of training. Extensive cost savings would not be incurred at scale by reducing the number of training days.

Cost-efficiency gains level off at 50 girls per community

The analysis allows us to derive estimates of the cost per girl based on changes in the numbers of girls reached per community to understand the impacts of scale on cost. These curves were replicated for scenarios in which 90, 180 and 270 communities were reached (each split across 3 districts). These average cost curves support the conclusion that future version of EAGER should target 50 girls (2 groups of 25 girls) per community at which point cost-efficiency gains at scale begin to level off. If the program seeks to serve more girls per community, costs per girl will only marginally drop £431 per girl under the basic model, at £473 per girl under the basic + empowerment package model, or at £484 per girl under the basic + conditional cash transfer package.



Cost-efficiency implications

Overall, greatest cost-efficiency emerges once the program reaches 50 girls (2 groups of 25) per community. This is consistent across the three scenarios modelled: basic, basic + empowerment, basic + conditional cash transfer. Across the three models, assuming 50 girls per community, among 90 communities, we see cost per girl at £431, £473, and £484, respectively. The choice to proceed with one of these modalities should be assessed with program outcome data, such that the additional support packages (empowerment package or conditional cash transfer) which yields higher impact should be implemented.

Cost-effectiveness implications

The use of non-experimental methods in the endline evaluation make it difficult to infer potential cost-effectiveness precisely. There are a small number of programs which target this unique combination of empowerment, education, and life-skills outcomes, making it difficult to draw conclusions about the comparative cost-effectiveness of EAGER. Therefore, to further understand the cost-effectiveness of this program, impact results form an experimental or quasi-experimental evaluation design would need to be gathered, for the EAGER program, along with other similar programs, to understand cost-effectiveness, and as it compares to other programs.

Methodology Note – Scenario Modeling

The Best Use of Resources (BUR) team at the International Rescue Committee works with field teams and technical units on several types of cost analyses. One of these analysis types is scenario modeling. The value of a costing scenario analysis is that it helps program design teams and advocacy teams to answer 'what if' questions about modifications to a specific program prior to making decisions. For example, a technical team may have a limited budget and want to know how many of each of their ten ideal activities they can implement with the funding available. Or an advocacy colleague may be working with a national government to promote the uptake of an IRC education program at scale and need to have projections of what such programing might cost.

Four key pieces of information are required for the BUR team to complete a scenario analysis: 1) there must be an existing program in the context for which the scenario is being developed to use as a basis for cost data- thus scenario analysis cannot model a completely new program or a program in a completely new context; 2) there must be a clear use-case- meaning there must be a clear understanding of who will use the scenario analysis and why it is needed; 3) There must be a clear cost question of interest, as the more variables within a scenario model, the less accurate it will be – it is necessary to be explicit about what variables are used in the model to answer what specific question(s).

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[iii] Lee, Lucian. 2022. "Value for Money (VfM): Cost-Efficiency – Every Adolescent Girl Empowered and Resilient (EAGER) project, Sierra Leone." The International Rescue Committee.
[iv] Sarr, K.G., et al. 2022. "Endline Evaluation of the Every Adolescent Girl Empowered and Resilient (EAGER) project within the Girl's Education Challenge (GEC) – Leave No Girl Behind Project (LNGB)." IMC Worldwide. URL: https://girlseducationchallenge.org/media/qv5b3mwy/irc-sl-eager-endline-report_public.pdf