



REUSE RISE REJOICE

A Menstrual Health Program Evaluation for the African Education Program

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INTRODUCTION

Menstruation is a defining event of human puberty that begins at 12 years of age on average and signals maturation, physical growth, and possible fertility. It is a natural fact of life for anyone physiologically capable of menstruation. Despite its centrality to adolescence, many menstruators in low-and middle-income countries (LMICs) lack adequate menstrual health and hygiene (MHH) practices and reproductive health education. Without proper MHH practices, menstruation presents a barrier to health and gender equality that diminishes girls' and women's social mobility over a lifetime. The African Education Program's (AEP) Reuse Rise Rejoice (RRR) program addresses this disparity by providing menstrual products and reproductive health education to girls and women in Kafue, Zambia.

This program evaluation aims to:

- Measure program impact on participants, their families, and broader communities.
- Explore the factors influencing menstrual product preference and measure participants' understanding of the environmental impact of their chosen menstrual products.
- Identify MHH challenges girls face during menstruation to find areas for support and intervention.

PROGRAM OVERVIEW/ PROBLEM STATEMENT

AEP is a twenty-year-old 501 © 3 organization dedicated to empowering youth in Kafue by providing full-tuition scholarships, mentorship, and afterschool programs to its student body of over 400 students. In 2019, AEP founded the Reuse Rise Rejoice (RRR) program to respond to MHH challenges experienced by its female students. As the program grows, some critical questions have emerged, specifically related to **program impact, product preference**, and **environmental awareness**. With this program evaluation, AEP hopes to build on existing research to respond to these critical issues and identify areas for additional outreach and program improvement.

¹ Amy E. Lacroix, Hurria Gondal, and Michelle D. Langaker._"Physiology, Menarche." *StatPearls Publishing* (April 25, 2019): https://www.ncbi.nlm.nih.gov/books/NBK470216/.

² "Guidance on Menstrual Health and Hygiene." UNICEF, March 2019, https://www.unicef.org/documents/guidance-menstrual-health-and-hygiene.

^{*}In search for the appropriate and inclusive term to use when referring to menstruating people, I discovered footnote 5 on UNICEF's MHH guide. In line with this standard, I will use "girls and women" and "menstruators" interchangeably throughout my paper to increase comprehension and readability.

³ UNICEF, "Guidance on Menstrual Health and Hygiene."

⁴ Julie Hennegan et al. "Women's and Girls' Experiences of Menstruation in Low- and Middle-Income Countries: A Systematic Review and Qualitative Metasynthesis." *PLoS Medicine* 16 no. 5 (May 16, 2019): https://doi.org/10.1371/journal.pmed.1002803.

PROGRAM IMPACT

Menstrual health and hygiene (MHH) is defined by UNICEF as access to: accurate and timely knowledge, safe and affordable materials, informed and comfortable professionals, health services, water, sanitation and hygiene (WASH) facilities, positive social norms, safe and hygienic disposal, and advocacy and policy. Existing research finds that many girls and women in LMICs experience inadequate access to MHH with significant consequences on health, education, and economic outcomes. Poor MHH is associated with school and workplace absenteeism, decreased economic potential over a lifetime, and adverse social and psychological effects such as low self-confidence, anxiety, and social seclusion. These issues are compounded by the stigmatization of menstruation as "dirty" or "impure" in many rural communities across cultures. A systematic review and qualitative metasynthesis of girls and women's experience of menstruation in LMICs found that they internalized societal menstrual stigma, causing shame, distress, and a tendency to self-regulate their behaviour. This additional external factor makes it more difficult for girls and women to access the accurate information and support they need.

One of the potential consequences of poor MHH in Zambia is a low female literacy level of approximately 58% and a 44% drop-out rate for female students before completing secondary school.⁸ In addition, 15–19-year-old Zambian girls have a 44% higher likelihood of adolescent mortality than boys of the same age, mainly due to pregnancy complications, HIV prevalence, and unsafe abortions.⁹

The RRR responds to these issues by providing all girls and young women on AEP sponsorship, aged 13-24, with reusable menstrual products (menstrual cups, reusable pads, and reusable underwear) and comprehensive training on making and using these products. AEP has supplied reusable menstrual products to 197 girls over three distribution cycles. Through the RRR program, the emergent issue of affordability is addressed. AEP hopes to measure the extent to which decreased financial strain and increased access to informed professionals, accurate information, and safe and hygienic menstrual products affect participants' overall well-being.

PRODUCT PREFERENCE

In addition to measuring program impact, AEP aims to determine which products participants prefer to use, intending to increase the use of reusable menstrual cups among participants.

https://www.africaneducationprogram.org/annual-report.

⁵ UNICEF, "Guidance on Menstrual Health and Hygiene."

⁶ Kerina Tull, "Period Poverty Impact on the Economic Empowerment of Women." *Institute of Development Studies*, (January 23 2019): https://opendocs.ids.ac.uk/opendocs/handle/20.500.12413/14348.

⁷ Hennegan et al., "Women's and Girls' Experiences of Menstruation in LMICs"

⁸ Joyce Chinyama et al., "Menstrual Hygiene Management in Rural Schools of Zambia: A Descriptive Study of Knowledge, Experiences and Challenges Faced by Schoolgirls." *BMC Public Health* 19, no. 1 (December 2019): 16. https://doi.org/10.1186/s12889-018-6360-2.

⁹ "UNICEF Zambia Country Programme, 2016-2021." UNICEF, September 2015, https://www.unicef.org/zambia/reports/unicef-zambia-country-programme-2016-2021. ¹⁰ "2019/2020 Annual Report." African Education Program, March 2020,

Although they are a safe, effective, and inexpensive alternative to disposable menstrual products, menstrual cups are rarely selected by agencies in resource-poor settings, which may be attributed to lack of access and cultural concerns about the acceptability of insertable products. AEP prefers menstrual cups for three main reasons: affordability, health outcomes, and environmental concerns.

i. Affordability

The affordability of menstrual products is a significant concern for many menstruating people in LMICs. Due to a decline in global copper prices, which is Zambia's main export, the country has experienced slow economic growth over the last decade, with an estimated Gross Domestic Product (GDP) growth rate of 3% in 2016, which grew to just 4.2% in 2018. ¹¹ UNICEF estimates that three-quarters of Zambia's population lives on an income of less than \$1.25 per day and finds that most of the country's impoverished population lives in rural Zambia. Furthermore, children constitute 3.3 million people living in extreme poverty. ¹² With competing financial priorities and limited access to WASH facilities, Zambian girls and women are often unable to manage their periods with dignity and maintain good hygiene standards during menstruation. Girls and women have reported reusing old clothes and blankets to absorb menstrual flow. ¹³ In some cases, girls and women report resorting to transactional sex to purchase menstrual products, and this exposure to transactional sex poses further threats to reproductive health. ¹⁴

Reusable for up to a decade and retailing for \$25 apiece, menstrual cups provide an affordable and environmentally friendly alternative to costly and wasteful disposable products.

ii. Health Outcomes

In a study conducted in rural Kenya, an area geographically and socio-economically similar to Kafue, the provision of menstrual products for at least one year was associated with a lower risk of sexually transmitted infections (STIs). The study also found that reproductive tract infections were lower in girls and women provided with menstrual cups than those

¹¹ Saviour Lusaya, and Namoonga Mulunda. "Factors Determining Household Savings in Zambia: A Logit Regression Model from the Micro-Economic Perspective." *World Journal of Advanced Research and Reviews* 13, no. 1 (January 30, 2022): 520–33. https://doi.org/10.30574/wjarr.2022.13.1.0007.

¹² UNICEF "UNICEF Zambia Country Programme, 2016-2021."

¹³ Anne Mutunda Lahme and Ruth Stern, "Factors That Affect Menstrual Hygiene among Adolescent Schoolgirls: A Case Study from Mongu District, Zambia," *Women's Reproductive Health* 4, no. 3 (September 2, 2017): 198–211, https://doi.org/10.1080/23293691.2017.1388718.

¹⁴ Tull, "Period Poverty Impact on the Economic Empowerment of Women."

provided with pads.¹⁵ This finding is especially significant considering disparities in health care delivery, which disproportionately affect people living in Zambia's rural areas.

ENVIRONMENTAL AWARENESS

AEP aims to reduce the environmental footprint of girls and women in the program and measure participants' level of environmental awareness. Use and disposal of menstrual products, such as disposable pads and tampons, is associated with adverse environmental consequences. Although hygienic and convenient, single-use disposal pads are composed of over 90% plastic, account for 150,000 tons of waste each year, and are typically disposed of in landfills, where they do not biodegrade for 700-800 years. ¹⁶ Researchers have recently begun to investigate the health and environmental consequences of the fragmentation of menstrual products into smaller particles called micro- or nanoplastics (MNPs), which may be absorbed into the body during use or released into the environment when disposed of. ¹⁷ MNPs are associated with a disrupted endocrine system, inflammation, and other toxic effects.

Compared to disposable menstrual products, menstrual cups are composed of medical-grade silicone rubber, can be worn for 6-12 hours with a lower risk of toxic shock syndrome, and can be reused for up to 10 years. ¹⁸ Furthermore, menstrual cups can be reused immediately after washing, unlike reusable pads, which are made of fabric and must be dried thoroughly prior to reuse. The use of reusable pads may be impacted by participants' levels of WASH access.

RESEARCH QUESTIONS

To measure program impact, product selection and environmental awareness among RRR participants, this program evaluation will answer the following research questions:

- 1. Do participants prefer to use menstrual cups or reusable pads?
- 2. How does the Reuse Rise Rejoice program affect participants?
- 3. How does the Reuse Rise Rejoice program affect participants' households and greater communities?
- 4. How well do participants understand the environmental impact of their chosen menstrual products?

¹⁵ Linda Mason et al., "Comparing Use and Acceptability of Menstrual Cups and Sanitary Pads by Schoolgirls in Rural Western Kenya," *International Journal of Reproduction, Contraception, Obstetrics and Gynecology* 8, no. 8 (July 26, 2019): 2974, https://doi.org/10.18203/2320-1770.ijrcog20193506.

¹⁶ Sabrina Sareen, "Sustainable Menstrual Alternatives: The Journey So Far" *International Journal of Home Science* 7 no. 3 (September 8 2021): 216-219.

https://www.homesciencejournal.com/archives/2021/vol7issue3/PartD/7-3-35-838.pdf

¹⁷ Leonardo Pantoja Munoz et al., "Release of Microplastic Fibres and Fragmentation to Billions of Nanoplastics from Period Products: Preliminary Assessment of Potential Health Implications," *Environmental Science: Nano* 9, no. 2 (February 17, 2022): 606–20, https://doi.org/10.1039/D1EN00755F.

¹⁸ Amy Hait and Susan E. Powers, "The Value of Reusable Feminine Hygiene Products Evaluated by Comparative Environmental Life Cycle Assessment," *Resources, Conservation and Recycling* 150, no. 4 (November 2019): 104422, https://doi.org/10.1016/j.resconrec.2019.104422.

QUANTITATIVE METHODOLOGY

SAMPLING PLAN

We drew participants for quantitative data collection from five neighbourhoods in Kafue, Zambia: Kalundu View, Greenfield, Shikoswe, Zambia Compound Community, and Kafue Estates. Participants were selected using a purposive, non-probability sampling method, meaning that participants were chosen by judgment of Kafue-based research team members. Purposive sampling is a cost-effective sample selection method that allows researchers to collect information from best-fit participants of a relatively small population of interest.

DEMOGRAPHICS

The structured self-administered questionnaires were distributed to a test group and a comparison group. All participants were residents of Kafue with an average household income of between \$2 and \$5 a day per AEP.

Test Group:

- Participants were enrolled at AEP
- Participants received tuition scholarships from AEP
- Participants had received free menstrual products from AEP

Comparison Group:

- Participants were not enrolled at AEP
- Participants did not receive tuition scholarships from AEP
- Participants had not received free menstrual products from AEP

Pilot Survey			
	Test Group	Comparison Group	
Number of participants	15	13	
Average age	17.4	18.8	
Mode* age	17	21	
Minimum age	13	15	
Maximum age	23	21	
Average age at Menarche	14	13.6	

Final Survey			
	Test Group	Comparison Group	
Number of participants	124	114	
Average age	17.1	17.9	
Mode* age	16	18	
Minimum age	13	12	
Maximum age	26	23	
Average age at Menarche	13.1	13.2	

* Mode: most frequently occuring	
ivioue. most nequently occurring	

Table 1: Demographics of survey respondents

QUANTITATIVE DATA ANALYSIS METHODS

In line with best practices for program evaluation, we conducted a pilot test before distributing the main survey questionnaire. ¹⁹ The pilot test measured participant comprehension and instrument reliability and evaluated the entire data collection process, including sampling, survey administration, and data entry. We altered the questionnaires to reflect insights gained from the pilot test before distribution to the final sample groups. We collected data using paper surveys to avoid potential test validity issues associated with teaching participants how to navigate technologies required for an online survey (i.e., iPads & Google Forms). Kafue-based research team members conducted training sessions with all participants before survey administration and scanned and transmitted completed paper forms to the project lead for data entry.

Quantitative data was prepared for analysis by reviewing for duplicates and incomplete or unclear survey responses. Ultimately, 12 questionnaires (6 from the test group and 6 from the comparison group) were eliminated from final analysis.

We used both descriptive and inferential statistics to analyze the dataset. Descriptive analysis describes or summarizes the data by finding averages, frequencies, standard deviations, and percentages. Inferential statistics help us make inferences or predictions about a larger population. For inferential analysis, we used t-tests to compare the averages of the test group with the averages of the comparison group. T-tests help us determine whether differences between groups are due to chance or treatment – in this case, enrollment at AEP.

The research team developed four quantitative scoring systems by tallying participants' responses to several survey questions. Example questions are included below. We tested the scores with independent one-tailed t-tests using a benchmark p-value of less than 0.05.

Well-Being Score	Knowledge - Menstruation Score	Knowledge - Environment Score	WASH Access Score
"I feel happy and confident during my period"	"Periods are a normal body function for women"	"Which products are better for the environment?"	During my period I have access to a bathroom that is:
"I learned about my menstrual cycle before my first period"	"On average, a woman's period will stop between ages 45 and 55"	"Which products are worse for the environment?"	1. Clean 2. Lockable 3. Has water and soap 4. Has a flush toilet
"I feel supported by my community to manage my period"	"Menstrual cups and pads should be changed 2-4 times a day"	"How urgently do we need to take action to protect the environment"	5. Has a waste bin

Figure 1: Quantitative scoring systems

¹⁹ "Menstrual Hygiene Management: Operational Guidelines," Save the Children's Resource Centre, 2015, https://resourcecentre.savethechildren.net/document/menstrual-hygiene-management-operational-guidelines/.

QUANTITATIVE DATA COLLECTION INSTRUMENTS

The survey questionnaires comprised eight sections:

- 1. Introduction 2. Current MHH practices 3. Preference: menstrual cups or reusable pads
- **4.** Program impact on participants (physical comfort) **5.** Program impact on participants (mood & mental health) **6.** Program impact on community **7.** Environmental understanding and awareness **8.** Closing questions.

The comparison group questionnaire was adapted slightly to account for the fact that participants in this group had not received menstrual products from AEP and could not speak to product preference.

All sections of the survey instrument were developed by the project lead, with input from research team members in Kafue for feedback on cultural sensitivity and comprehension. The survey instruments were based on an intensive literature review and reviewed for feasibility, validity, and comprehensibility by the capstone project advisor. We used a Matrix-Likert scale to measure questions in sections 3,4 and 5, with participants scoring statements on a scale from "Strongly Agree" to "Strongly Disagree:"

		·	••	•••	::
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
The products provided by AEP make my period easier to manage					
I can wash my hands and change my menstrual products easily during my period					
I feel comfortable attending school and workshops during my period					

Figure 2: Excerpt from survey instrument

For sections 2 and 6, close-ended questions were paired with open-ended qualitative questions to bring greater detail to quantitative responses:

community ☐ Yes ☐ No	
□ No	
3 If yes, how?	

Figure 3: Excerpt from survey instrument

Multiple-answer multiple-choice questions were used to measure participants' understanding of environmental sustainability (section 7). This type of survey question was also used to identify

barriers to using menstrual cups and reusable pads (section 3) with an optional "Other" comment field to allow for answers other than the predetermined list of multiple-choice options.

If you do not like using mens	trual cups, why not?: (Select all that apply)
☐ I need more training	The cup is too big for me to use
The cup is painful to insert	I don't have a private bathroom for daily cleaning
The cup is painful to remove	☐ The cup leaks and causes accidents
The cup is difficult to insert	My family does not want me to use the cup
The cup is difficult to remove	I don't think virgins should use the cups
I don't like seeing the blood	☐ I have no concerns about using the cup
Other:	

Figure 4: Excerpt from survey instrument

Participant data also included age, grade, gender identity, sexual activity, and period length. *See Appendix A for quantitative data collection instruments.*

LIMITATIONS

1. Response Bias

Response bias is a common phenomenon in behavioural research that may limit construct validity, defined as a test's ability to measure what it intends to measure accurately. In this study, data was collected using self-reported questionnaires. As a result, there is a chance that social pressures such as eagerness to please or disinterest in the survey may lead to inaccurate survey responses.

2. Manual Data Entry

To reduce issues with test validity, the research team decided to administer quantitative surveys in paper form instead of by electronic self-entry. However, a paper-based survey introduces some limitations. Although I conducted quality assurance reviews to ensure accurate data entry, human error is inevitable and may reduce data reliability.

QUALITATIVE METHODOLOGY

SAMPLING PLAN

Qualitative data included semi-structured interviews (SSIs) and a focus group discussion (FGD). We used a purposive sampling strategy to select participants for the SSIs and the FGD. Participants were selected by a Kafue-based research team member with a strong knowledge of the target population. Selection was based on availability and perceived level of enthusiasm to participate in the research study.

Semi-Structured Interviews				
	# of Participants	Sample Details		
AEP Parents	2	both female		
AEP Teachers	2	1 male, 1 female		
Focus Group Discussion				
# of Participants Sample Details				
AEP Students	6	all female		

Table 2: Demographics of interview participants

QUALITATIVE DATA ANALYSIS METHODS

The research team conducted all SSIs on Zoom, with a Kafue-based research team member assisting in translating interviews with parents. Written consent forms were distributed to all participants before data collection. SSIs lasted between 20 and 30 minutes, and the FGD lasted for about one hour. All interviews were recorded and transcribed to facilitate accurate analysis and reporting. Reviewing audio recordings and transcripts helped familiarize the research team with qualitative data and helped identify patterns and themes in the data set.

QUALITATIVE DATA COLLECTION INSTRUMENTS

The interview guides included 6-8 main questions with several additional probe questions to facilitate further discussion. Interviewers were advised to allow for diversion from the prescribed script to build rapport and create a friendly and conversational atmosphere. Different interview guides were created for the different individuals sampled. Generally, topics included (1) current menstrual hygiene practices/awareness; (2) product preference; (3) program impact; (3) participants' environmental awareness. Interview guides were designed to begin with pleasant, easy questions and close out with more potentially sensitive or uncomfortable questions. Topics, questions, and additional probes are closely aligned with research questions and designed to gain a deeper understanding of questions posed in the quantitative questionnaires. See Appendix B for qualitative data collection instruments.

LIMITATIONS

1. Data Analysis

While we reviewed transcripts and audio recordings for familiarity with the qualitative data, an in-depth qualitative analysis was not conducted during this research study. A related recommendation for future research is to conduct a content or thematic analysis of the qualitative data.

2. Sampling Method

A purposive non-sampling method provided researchers with a cost and time-effective method of selecting study participants. However, this sampling strategy may result in a study sample that is not representative of a broader population, which must be considered when hoping to generalize findings to a greater population.

FINDINGS

Research Question 1: Do participants prefer to use menstrual cups or reusable pads?²⁰

FINDING 1

Most participants prefer to use reusable pads over menstrual cups or other products. 21

• Of the test group sample of 124, 98 (79%) participants selected reusable pads as their favourite product compared to 20 (16%) participants who selected menstrual cups.



Figure 5

 When prompted to elaborate on their discomfort with the menstrual cup, the most frequent complaints were about the insertion of the cup and cup size. 85 (69%) participants reported that the cup was painful to insert, 76 (61%) participants reported it was difficult to insert, and 64 (52%) participants said the cup was too big.²²

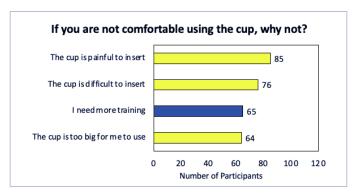


Figure 6

• The most frequent complaint about reusable pads was difficulties cleaning and drying them. 71 (57%) participants reported that pads took too long to dry, and 47 (38%)

²⁰ Findings for RQ1 include data from AEP participants only because non-AEP participants did not receive free menstrual products from AEP and were not surveyed on product preference.

²¹ Note: some participants chose more than one favourite product.

²² Note: some participants selected more than one issue with using the menstrual cups.

participants reported that pads were difficult to clean.²³ This finding was supported by responses from the focus group discussion, during which participants reported difficulties with drying their reusable pads, especially during the rainy season, which led to them running out of reusable pads to use.

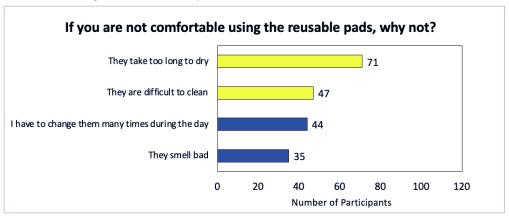


Figure 7

FINDING 2

Participants who selected the menstrual cup as their favourite product to use had been using it for at least one year.

• 15 of 20 (75%) participants who selected the menstrual cup as their favourite product reported that they had been using it for 12 months or more.

FINDING 3

Participants who report current use and preference of the menstrual cup skewed younger.

- 25 of 44 (57%) participants who reported **currently using** the menstrual cup were aged 14 and 17.
- 12 of 20 (60%) participants who selected the menstrual cup as their **favourite product** were aged 13 to 17. This finding is consistent with data from the focus group discussion, where the youngest member of the group was most vocal about her current use of the menstrual cup.

²³ Note: some participants selected more than one issue with using the reusable pads.

RESEARCH QUESTION 2: HOW DOES THE REUSE RISE REJOICE PROGRAM AFFECT PARTICIPANTS?

FINDING 1

AEP participants report a higher level of well-being than non-AEP participants.

- An independent, one-tailed t-test was performed to compare the well-being scores of the test group and the comparison group, using a benchmark p-value of less than 0.05.
- AEP participants reported a significantly higher level of well-being (M = 41.4, SD = 9.8); than non-AEP participants (M = 31.5, SD = 8.9); (p< 0.05, Cohen d = 1.05).²⁴
 This means that differences between groups were likely a result of participation with AEP and are not due to chance.

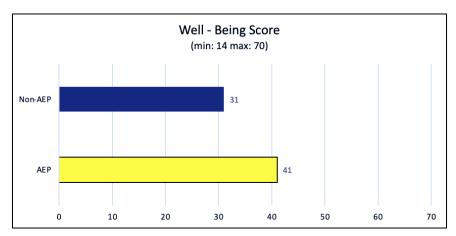


Figure 8

t-Test: Two-Sample Assuming Unequal Variances			
	Well - Being Score AEP	Well - Being Score non-AEP	
Mean (Average) Score	41.41	31.52	
Variance	97.67	79.84	
Observations	124	114	
Hypothesized Mean Difference	0		
df	236		
t Stat	8.11		
P(T<=t) one-tail	0.000000000000138		
t Critical one-tail	1.65		

Table 3: T-test output for Well-Being Score

 $^{^{24}}$ M = Mean or average score. SD = Standard Deviation measures how spread-out data values are around the mean. P-value = Probability Value determines the statistical significance of results. Cohen's D = measures the effect size of differences between groups. The larger the effect size, the larger the difference between the average individual in each group, and the more significant the finding. d of 0.2 (small), d of 0.5 (medium), d of 0.8+ (large).

FINDING 2

AEP participants and non-AEP participants have comparable Knowledge - Menstruation and WASH Access scores.

- An independent, one-tailed t-test was performed to compare Knowledge Menstruation and WASH scores of the test group and the comparison group, using a p-value of less than 0.05.
- Knowledge-Menstruation: AEP participants scored slightly higher (M = 13.4, SD = 1.6); than non-AEP participants (M = 12.8, SD = 1.9) on the Knowledge-Menstruation score (p< 0.05, Cohen d = 0.3). While results of the t-test indicate statistical significance, the effect size shows that differences between the groups were relatively low.
- WASH Access: The t-test comparing WASH Access scores of the AEP participants (M = 2.7, SD = 1.0) and non-AEP participants (M = 2.8, SD = 1.4) was determined to be statistically insignificant (p>0.05).

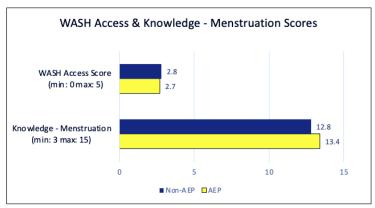


Figure 9

t-Test: Two-Sample Assuming Unequal Variances			
	Knowledge - Menstruation Score AEP	Knowledge - Menstruation Score non-AEP	
Mean (Average) Score	13.40	12.82	
Variance	2.45	3.65	
Observations	124	114	
Hypothesized Mean Difference	0		
df	219		
t Stat	2.51		
P(T<=t) one-tail	0.006		
t Critical one-tail	1.65		

Table 4: T-test output for Knowledge - Menstruation Score

t-Test: Two-Sample Assuming Equal Variances			
	WASH Access Score -	WASH Access Score -	
	AEP	non-AEP	
Mean	2.77	2.82	
Variance	1.17	1.86	
Observations	124	114	
Pooled Variance	1.50		
Hypothesized Mean Difference	0		
df	236		
t Stat	-0.37		
P(T<=t) one-tail	0.36		
t Critical one-tail	1.65		

Table 5: T-test output for WASH Access Score

FINDING 3

Participants from both groups requested additional items to supplement their menstrual health and hygiene.

- Despite receiving free menstrual products from AEP, 69% of AEP participants request more menstrual products. This finding is consistent with the findings listed above and illustrated in Figure 7, which found that participants run out of reusable pads during the rainy season.
- All participants who request food & fruit lived in households of 5 people or more.

"Something that would make my period easier to manage each month is"					
AEP Non-AEP					
More menstrual products	69%	82%			
Medicine & pain relief	28%	11%			
Food & fruit	5%	2%			

Table 6: Test and comparison group survey question responses

FINDING 4

AEP participants were less likely than non-AEP participants to be absent from school because of period pains or lack of access to menstrual products.

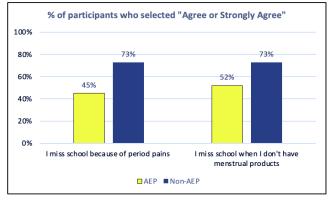


Figure 10

RESEARCH QUESTION 3: How does the Reuse Rise Rejoice program affect participants' households and greater communities?

FINDING 1:

The RRR program reduces financial strain on households of AEP participants and their households.

98%

of **AEP participants** reported that receiving **free menstrual products** from AEP **reduced the financial strain** on their households.

97%

of **non-AEP participants** responded that receiving **free menstrual products** would **reduce the financial strain** on their households.

FINDING 2

The RRR program has a positive impact on the greater Kafue community

68%

of **AEP participants** responded that members of their community had **changed their menstrual products** after learning about other options through AEP.

67%

of **all participants** responded that their community was **interested in learning** about periods, period products, and reproductive health.

RESEARCH QUESTION 4: HOW WELL DO PARTICIPANTS UNDERSTAND THE ENVIRONMENTAL IMPACT OF THEIR CHOSEN MENSTRUAL PRODUCTS?

FINDING 1

Participants in both groups had similar levels of understanding about the environmental impact of their chosen menstrual products.

- An independent, one-tailed t-test was performed to compare the Knowledge Environment scores of the AEP participants (M = 10.9, SD = 2.8) and the non-AEP
 participants (M = 10.8, SD = 2.7) using a benchmark p-value of less than 0.05.
- The t-test was determined to be **statistically insignificant** (p>0.05).
- With a possible high score of 15, both groups scored relatively highly on the Knowledge Environment score.

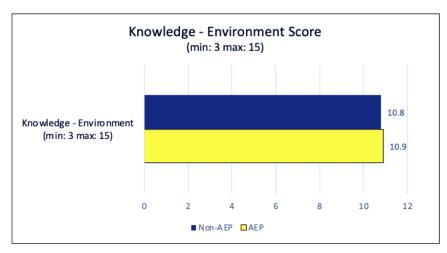


Figure 11

t-Test:	Two-Sample Assuming Equal Varia	nces
	Knowledge - Environment Score	Knowledge - Environment Score
	AEP	non-AEP
Mean	10.94	10.81
Variance	7.88	7.22
Observations	124	114
Pooled Variance	7.56	
Hypothesized Mean Difference	0	
df	236	
t Stat	0.36	
P(T<=t) one-tail	0.36	
t Critical one-tail	1.65	

Table 7: T-test output for Knowledge - Environment Score

FINDING 2 AEP participants reported more environmentally friendly menstrual hygiene management practices than non-AEP participants

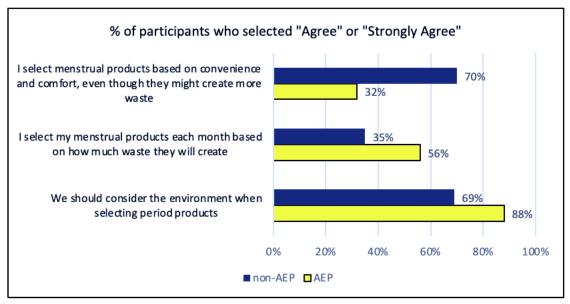


Figure 12

RECOMMENDATIONS

RECOMMENDATIONS FOR PROGRAM

1. Invest in smaller menstrual cups for new users

In line with reports that menstrual cups are too big for participants to use, AEP may consider investing in smaller menstrual cups for new users. As the use and knowledge about menstrual cups grows, new technologies have emerged to make the menstrual cup easier and less intimidating to use. For example, Sunny Period has developed a menstrual cup made of a very flexible material that can be folded into a small size and inserted with an applicator like a tampon.²⁵

2. Provide lubricants to make insertion of cups more comfortable

A frequent complaint about the menstrual cup is that they are difficult and painful to insert. AEP may consider providing menstrual cup users with lubricants to make insertion more comfortable to improve comfortability.²⁶ Alternatively, participants may be advised to wet the menstrual cup with water prior to insertion.

3. Increase the number of times participants are contacted after the initial product distribution of menstrual cups

In a study by Mason et al., researchers found that when study nurses followed up with participants for data collection six times individually over a calendar year, menstrual cup use increased from 39% at month one to 80% by month 12.²⁷ In addition, the study found that consistent training and peer support assuaged apprehension about the cups being too big or concerns about adverse health effects.

Although a causal effect is not explicitly reported, additional contact with participants will allow for more training and troubleshooting of any complaints, issues, and challenges that may arise.

4. Implement a "buddy system" to increase the use of menstrual cups

Existing research shows that peer support, length of use, and additional training increase menstrual cup usage and is supported by findings in this evaluation. Additionally, a study conducted on a comparable sample group in Kisumu, Kenya, found that when experienced menstrual cup users provided informal peer support to study participants (aged 14-16) in the form of practical advice and encouragement on cup use, participants' reported uptake and use increased. These findings are consistent with a Nepalese study conducted to estimate the causal effects of peer exposure on the adoption of menstrual cups. Two

21

²⁵ "Sunny Menstrual Mates Inc," Sunny Menstrual Mates Inc, 2022, http://www.sunnyperiod.com.

²⁶ Rejisha Gayathri and Murali Sivanandam, "Menstrual Cup: An Unexplored Women's Hygiene Product," Journal of Novel Physiotherapies 07, no. 04 (2017), https://doi.org/10.4172/2165-7025.1000357.

²⁷ Mason et al., "Comparing Use and Acceptability of Menstrual Cups and Sanitary Pads by Schoolgirls in Rural Western Kenya,"

²⁸ Ibid.

months into the study, an additional "treatment friend" increased menstrual cup usage by 18.6%.²⁹

"Buddies" can be assigned in one of two ways:

- Pair an experienced menstrual cup user with a less experienced menstrual cup user.
- Pair participants up according to existing friendships known to AEP teachers. The Nepalese study findings were associated with participants who reported organically occurring friendships.

5. Provide additional medication and nutrition assistance

28% of AEP participants requested medicine or pain relief to manage physical menstrual symptoms. AEP may consider expanding the menstrual health program to include over-the-counter pain relief for menstruating students.

All participants requesting food and fruit live in households of 5 people or more. To supplement the existing Nutrition Program, AEP may consider targeting students from larger households for additional nutrition assistance.

6. Create a Community Outreach Program

67% of all participants report that members of their community are interested in learning about reproductive and menstrual health, and 68% of AEP participants report that members of their community have changed their menstrual programs after learning about other options through AEP. Additionally, parents of AEP participants were eager to be interviewed and discuss the RRR program. AEP may consider creating a community outreach program to improve community awareness about appropriate menstrual health management practices and provide reproductive and menstrual health education.

RECOMMENDATIONS FOR FUTURE RESEARCH

1. In-depth qualitative analysis

Due to time limitations, rigorous qualitative data analysis was not conducted during this research study. AEP may consider using transcribed interview scripts to conduct an in-depth content or thematic analysis of the qualitative data.

2. WASH Access Scores

AEP recently initiated a capital campaign to develop a new learning and leadership center. It will include learning spaces like a STEM lab, community hall, kitchen/dining room, nurse's station, and counseling room for 300 students. AEP may consider comparing current WASH scores for AEP participants to future WASH scores once the facility is developed to measure the effect of the new facility on participants' levels of WASH access.

²⁹ Emily Oster and Rebecca Thornton, "Determinants of Technology Adoption: Peer Effects in Menstrual Cup Take-Up," *Journal of the European Economic Association* 10, no. 6 (August 8, 2012): 1263–93, https://doi.org/10.1111/j.1542-4774.2012.01090.x.

CONCLUSION

This program evaluation of Reuse Rise Rejoice affirms the life-changing impact of AEP's work. The provision of free menstrual health products and reproductive health education and counseling improves participants' lives in myriad ways. AEP participants report significantly higher levels of overall well-being than non-AEP participants, indicated by improved school attendance, positive mental dispositions during their periods, decreased financial strain, and greater feelings of community support. Although WASH access is relatively low for both tested groups, we are hopeful that the new leadership and learning facility will provide more WASH facilities to AEP participants. This is an area to consider for future research.

Progress towards achieving AEP's goal of improving environmental awareness and reducing the environmental footprint of their students is displayed by participants' good level of understanding of the environmental impact of their menstrual products. Additionally, AEP participants report more environmentally responsible waste disposal methods than non-AEP participants.

As the program continues to grow, recommendations include expanding programming to supply pain relief, increase menstrual cup uptake, usage, and comfortability and provide WASH facilities for users of reusable pads. It is encouraging to see the effect of the RRR program on neighbouring communities and non-AEP participants. AEP may also consider developing a Community Outreach Program to provide menstrual and reproductive health education to Kafue residents and continue their essential work of normalizing, destigmatizing, and improving the experience of menstruation for girls and women in Kafue.

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APPENDICES

APPENDIX A – QUANTITATIVE DATA COLLECTION INSTRUMENTS

- a. Test Group Survey
- b. Comparison Group Survey

APPENDIX B – QUALITATIVE DATA COLLECTION INSTRUMENTS

- a. Teacher Interview Script
- b. Parent & Guardian Interview Script
- c. Focus Group Discussion Interview Script



Dear Mwalii Leaders,

It is an honour to invite you to participate in a study of AEP's Reuse Rise Rejoice menstrual health program. The purpose of this survey is to understand how you experience your period, which will help AEP better support you in the future.

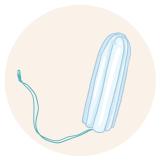
Your participation in this survey is voluntary and anonymous, and responses will not be connected to you in any way. It should take approximately 20 minutes to complete. By completing the following pages, you are agreeing to take part in the survey.

MENSTRUAL PRODUCTS

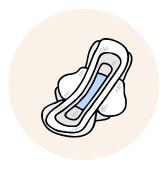
Menstrual (period) products are used to collect and absorb menstrual blood during your period. They include:



Menstrual Cups



Tampons



Disposable Pads



Reusable Pads



Period Underwear



INTRODUCTION

1 How old a	are you?	5	5 How many days does your period last? (<i>Please circle the correct answer</i>)
2 What gra	de are you in?		2-3 days 3-4 days 4-5 days 5-6 days 6-7 days Other:
3 How old v	were you when you started your period?		6 How many people live in your home?
4 How old	were you when you first came to AEP?		7 How many women live in your home?

Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
l learned about my menstrual cycle before my first period					
I felt nervous when my period started					
l learn about my menstrual cycle in school					
I learn about my menstrual cycle at home					
I have someone I can ask questions about my period					
Periods are a normal body function for women					
On average, a woman's period will stop between age 45 and 55					
Menstrual pads and cups should be changed two to four times a day					



MENSTRUAL PRODUCTS

I currently use these products during my period: (Select all that apply)	During my period, I have access to a bathroom that is: (Select all that apply)
Menstrual cups Reusable pads Disposable pads Tampons Reusable underwear Cloth/towels Toilet paper Underwear alone Natural materials Other:	Clean Lockable Has water & soap Has a flush toilet Has a dust bin
I am most comfortable managing my period: At home At school Other:	(Select one)
Something that would make my period easie	r to manage each month is:



PREFERENCE

Menstrual cup Reusable pad My favourite menstr Menstrual cup Reusable pad O	e following product(s) for my period: (Select all that apply) Reusable underwear rual product to use is: (Select one) Reusable underwear Other: e product to use because: my favourite product for months/years:
Reusable pad My favourite menstr Menstrual cup Reusable pad O	rual product to use is: (Select one) Reusable underwear Other: product to use because:
Menstrual cup Reusable pad O	Reusable underwear Other: product to use because:
Menstrual cup Reusable pad O	Reusable underwear Other: product to use because:
Reusable pad O	product to use because:
	e product to use because:
3 This is my favourite	
3 This is my favourite	
	my favourite product for months (vogre)
	my favourite product for menths /voars:
	my favourite product for menths (years)
⊿ I have been using n	ny lavourne broauct for - monins/vears.
- .	,, p
5 My least favourite p	product to use is: (Select one)
Menstrual cup	Reusable underwear
Reusable pad Ot	ther:
6 I don't like to use th	nis product because:
7 I would recommend	d this product to my friends: (Select one)
Menstrual cup	Reusable underwear
Reusable pad	Disposable pads
Other:	
8 I would recommend	d this product because:





REUSABLE PADS

Yes No					
		·	••	<u>~</u>	•••
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
Reusable pads are easy to place and remove					
Reusable pads are comfortable to wear					
Reusable pads cause less mess or accidents than other products					
Reusable pads smell bad					
Reusable pads are difficult to wash and dry					
I like reusable pads because they are not inserted like menstrual cups					
Reusable pads are easier to use than menstrual cups					
Reusable pads are cheaper than other products					

If you do not like using reusable p	pads, why not? (Select all that apply)
They move around too much	They smell bad
They take too long to dry	They are uncomfortable to wear
They stain my clothing	They make me sweat/itch
They are too big and bulky They are difficult to clean	I have to change them many times during the day
Other:	I have no concerns about using the pads





MENSTRUAL CUPS

		··	••	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
Menstrual cups are easy to insert and remove					
Menstrual cups are comfortable to wear					
Menstrual cups cause less mess or accidents than pads or other products					
Menstrual cups smell bad					
l prefer menstrual cups because I can use the same one for many months					
l can clean my menstrual cup in school/public bathrooms					
prefer menstrual cups because they are cheaper than other products					
can move around more freely when using the menstrual cup compared to pads and other products					
	'			•	

It you do not like using menst	rual cups, why not: (Select all that apply)
I need more training	The cup is too big for me to use
The cup is painful to insert	I don't have a private bathroom for daily cleaning
The cup is painful to remove	The cup leaks and causes accidents
The cup is difficult to insert	My family does not want me to use the cup
The cup is difficult to remove	I don't think virgins should use the cups
I don't like seeing the blood	I have no concerns about using the cup
I cannot easily boil my cup	
Other:	



PHYSICAL COMFORT

		··	••	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
The products provided by AEP make my period easier to manage					
I can wash my hands and change my menstrual products easily during my period					
I feel comfortable attending school and workshops during my period					
I can play sports and spend time with my classmates during my period					
My period products cause uncomfortable physical reactions					
I miss school because of period pains (stomach ache, backache, and headaches)					
I miss school when I don't have menstrual products					
I feel more comfortable at home than at school during my period					



MOOD & SATISFACTION

		·	••	••	•••
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
I can concentrate in class during my period					
I participate and answer questions in class during my period					
I worry about getting my period each month					
I feel nervous about accidents or messing my pants during my period					
I worry about spending money on menstrual products					
Nobody should know when I have my period					
I feel happy and confident during my period					
I should not talk to others about my period					



IMPACT ON COMMUNITY

Question		··	·•	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
My community is interested in learning about periods, period products and reproductive health					
Members of my community have changed their period products after learning about other options through AEP					
I feel supported by my community to manage my period					
1 Receiving menstrual products from Yes No	m AEP redu	ces the fin	ancial str	ain on my f	amily.
2 Receiving menstrual products & recommunity in other ways	eproductive	e health inf	formation	from AEP h	elps my
Yes No					
3 Please explain how?					



ENVIRONMENTAL SUSTAINABILITY

Definition: Environmental Sustainability can be described as the responsibility of all people to best protect our environment, world and the natural resources in order to be healthy and alive.

1 Which products are BETTER for the environment (create LESS waste)? (Select all that					
apply)					
Menstrual cups	Cloth/Towel				
Reusable pads	Disposable pads				
Reusable underwear	Tampons				
2 Which products are WORSE for the	environment (create MORE waste)? (Select all that				
2 Which products are WORSE for the apply)	environment (create Moke waste): (Select all mar				
Menstrual cups	Cloth/Towel				
Reusable pads	Disposable pads				
Reusable underwear	Tampons				
3 Products that are GOOD for the env	rironment: Select all that apply:				
Are reusable	Are thrown away after a single-use				
Can last for many years	Are made of natural and sustainable materials (cloth)				
A Due donne show was BAD for the con-	en anno ante Cala et all that manha				
4 Products that are BAD for the env					
Are thrown away after a single use	Are nonbiodegradable (do not break down for many years)				
Are made with synthetic materials (plastic)	Can be reused				



ENVIRONMENTAL SUSTAINABILITY

4 How urgently do we need to take action to protect our environment? Select one:

	We should take action now	We should take action when things get worse					
	We should take action in a few years	rs We do not need to take action to protect the environment					
5	When period products that are bo contribute to: Select all that apply:		nvironment	are throw	n away, the	,	
	Landfill waste All of the above						
	Air pollution	None of the above					
	Water pollution						
	5 During my period, I dispose of my	, products i	n the follow	ing ways	: Select all		
	that apply:			J			
	In the latrine/toilet In the community rubbish						
	I burn them	lu	se reusable p	roducts			
	In the household rubbish						
			··	••	•••	:	
	Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree	
	nould consider the environment when ing period products						
	able products are better for the onment than disposable products						
	ct my period products each month d on how much waste they will create						
comf	ct products based on convenience and ort, even though they might create waste						



UNDERSTANDING AND AWARENESS

What areas do you need more information about? (Select all that apply)
Reproductive organs (female)
Reproductive organs (male)
Changes during puberty
Gender identity
Menstruation cycle
Tracking my periods
Contraception methods
Stages of pregnancy
Myths and misconceptions about menstruation
Reproductive health rights
Other:



CLOSING QUESTIONS

1 How would you describe your gender?
Female
Male
Other:
2 Are you currently sexually active?
Yes
□ No
Prefer not to answer
3 Do you have children?
Yes
No
4 If yes, how many children do you have?
5 Please select area(s) that you need more information about. Select all that apply:
Contraception methods (condoms/birth control/family planning)
Sexual and reproductive health
Testing for pregnancy
Testing for HIV & STDs (sexually transmitted diseases)
Consent (your right to refuse or agree to sexual activity)
Sexual gratification (enjoying sex)



THANK YOU

FOR COMPLETING THIS SURVEY!



Hello!

It is an honour to invite you to participate in a study of AEP's Reuse Rise Rejoice menstrual health program. The purpose of this survey is to understand how you and your community experience menstruation.

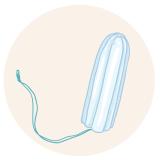
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MENSTRUAL PRODUCTS

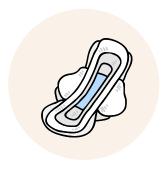
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Tampons



Disposable Pads



Reusable Pads



Period Underwear



INTRODUCTION

1 How old are you?	5 How many days does your period last? (<i>Please circle the correct answer</i>)						
What grade are you in?	2-3 days 3-4 days 4-5 days 5-6 days 6-7 days Other 6 How many people live in your home?						
3 How old were you when you started your period?	7 How many women live in your home?						

Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
l learned about my menstrual cycle before my first period					
I felt nervous when my period started					
I learn about my menstrual cycle in school					
l learn about my menstrual cycle at home					
I have someone I can ask questions about my period					
Periods are a normal body function for women					
On average, a woman's period will stop between age 45 and 55					
Menstrual pads and cups should be changed two to four times a day					



MENSTRUAL PRODUCTS

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I am most comfortable managing my period: At home At school Other:	(Select one)
Something that would make my period easier	r to manage each month is:



PHYSICAL COMFORT











					•			_
Q	ш	0	S	Ť.	П	0	n	•
_	-	$\mathbf{}$	$\mathbf{-}$			•		•

Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
My period is comfortable and easy to manage					
I can wash my hands and change my menstrual products easily during my period					
I feel comfortable attending school and workshops during my period					
I can play sports and spend time with my classmates during my period					
My period products cause uncomfortable physical reactions					
I miss school because of period pains (stomach ache, backache, and headaches)					
l miss school when l don't have menstrual products					
I feel more comfortable at home than at school during my period					



MOOD & SATISFACTION

		·	••	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
I can concentrate in class during my period					
I participate and answer questions in class during my period					
I worry about getting my period each month					
I feel nervous about accidents or messing my pants during my period					
I worry about spending money on menstrual products					
Nobody should know when I have my period					
I feel happy and confident during my period					
I should not talk to others about my period					



IMPACT ON THE COMMUNITY

		··	••	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
My community is interested in learning about periods, period products and reproductive health					
Education about the menstrual cycle would make it easier for me and my community to manage our periods					
I feel supported by my community to manage my period					
Receiving free menstrual products would reduce the financial strain on my family. Yes No					
2 Receiving menstrual products & refamily/community in other ways. Yes No	eproductive	e health inf	formation	would help	my
3 Please explain how?					



ENVIRONMENTAL SUSTAINABILITY

Definition: Environmental Sustainability can be described as the responsibility of all people to best protect our environment, world and the natural resources in order to be healthy and alive.

1 Which products are BETTER for the environment (create LESS waste)? (Select all that		
apply)		
Menstrual cups	Cloth/Towel	
Reusable pads	Disposable pads	
Reusable underwear	Tampons	
2 Which products are WORSE for the	environment (create MORE waste)? (Select all that	
2 Which products are WORSE for the apply)	environment (create More waste): (Select all mar	
Menstrual cups	Cloth/Towel	
Reusable pads	Disposable pads	
Reusable underwear	Tampons	
3 Products that are GOOD for the env	ironment: Select all that apply:	
Are reusable	Are thrown away after a single-use	
Can last for many years	Are made of natural and sustainable materials (cloth)	
A.D. I. I. I. DAD.C. II	• • • • • • • • • • • • • • • • • • • •	
4 Products that are BAD for the env		
Are thrown away after a single use	Are nonbiodegradable (do not break down for many years)	
Are made with synthetic materials (plastic)	Can be reused	



We should take action now

AFRICAN EDUCATION PROGRAM

We should take action when things get worse

ENVIRONMENTAL SUSTAINABILITY

4 How urgently do we need to take action to protect our environment? Select one:

We should take action in a few year		o not need to onment	take action	n to protect the	2
5 When period products that are be contribute to: Select all that apply:		nvironment	are throw	n away, the	y
Landfill waste	All	of the above			
Air pollution	Nor	ne of the abo	ve		
Water pollution					
6 During my period, I dispose of my that apply:	/ products i	n the follow	ving ways:	: Select all	
In the latrine/toilet	In t	the commun	ty rubbish		
I burn them	l us	se reusable p	roducts		
In the household rubbish					
		·	••	•••	
Question:	Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree
We should consider the environment when selecting period products					
Reusable pads and menstrual cups are					
petter for the environment than disposable products					
•					



UNDERSTANDING AND AWARENESS

What areas do you need more information about? (Select all that apply)
Reproductive organs (female)
Reproductive organs (male)
Changes during puberty
Gender identity
Menstruation cycle
Tracking my periods
Contraception methods
Stages of pregnancy
Myths and misconceptions about menstruation
Reproductive health rights
Other:



CLOSING QUESTIONS

1 How would you describe your gender?
Female
Male Male
Other:
2 Are you currently sexually active?
Yes
☐ No
Prefer not to answer
3 Do you have children?
Yes
☐ No
4 If yes, how many children do you have?
5 Please select area(s) that you need more information about. Select all that apply:
Contraception methods (condoms/birth control/family planning)
Sexual and reproductive health
Testing for pregnancy
Testing for HIV & STDs (sexually transmitted diseases)
Consent (your right to refuse or agree to sexual activity)
Sexual gratification (enjoying sex)



THANK YOU

FOR COMPLETING THIS SURVEY!

Qualitative Instruments – Teacher Interview

Opening Script

Hello! Thank you for making time to speak with me today. My name is Ivy Mong'are and I am a graduate student the University of Pennsylvania. I am working with the African Education Program to evaluate the Reuse Rise Rejoice program for my final capstone project.

Purpose of Project

The purpose of our conversation is to gain a better understanding of how girls at AEP experience their period to help AEP better support them in the future. This research project focuses on three key areas:

- 1. Whether girls prefer to use menstrual cups or menstrual pads
- 2. How the Reuse Rise Rejoice program affects the girls and their greater community
- 3. How well girls understand the environmental impact of their chosen menstrual products

Structure for Conversation / Logistics

- Our conversation will last approximately 20-30 minutes.
- I'd like to record the conversation. I am the only person who will have access to the recording, and I will not share it with other AEP program staff. The recording will help me to articulate what we discussed accurately. If you are uncomfortable with the recording please let me know and I will not record it.
- As a reminder, your name will not be used in connection with your responses, and if you don't
 feel comfortable answering any questions, please let us know, and we will move on to the next
 section.

Interview

I want to start by saying that I appreciate your willingness to participate and discuss the impact of the Reuse, Rise Rejoice menstrual health program on your students. As a reminder, your responses will be recorded but will not be attributed to you. Before we begin, do you have any questions for me?

Section 1: Background and Introduction

- 1. To begin, tell us a little bit about your experience as a teacher at AEP. (Subject taught, length of service etc.)
- 2. What is your favourite thing about working at AEP?
- If you had a magic wand or three wishes, what would you bring to AEP/change about AEP?

Section 2: Development of Key Outcomes

Next, let's talk a little bit more about how the Reuse Rise Rejoice program impacts students, from your perspective. Some key outcomes we'll cover include participants' preference of menstrual products, program impact and environmentalism



	Questions	Probes
1.	What menstrual hygiene management (MHM) education do AEP students receive?	 When is this taught? Do both girls and boys receive MHM education? Together or separately? At what age/grade level is MHM taught? What topics are discussed? Reproductive health? Sexual education? Do you think MHM should be taught in schools? Why or why not?
2.	How do girls manage their periods at school?	 What are some challenges experienced by girls during their period? Is there adequate access to WASH facilities and privacy? Do girls confide in you when they are having trouble related to their periods? What do they say? Do you notice a change in behaviour when students are menstruating? Are girls treated differently when they are menstruating? Has a female student ever messed up her uniform in your class? How did you handle this situation? Did you feel prepared?
3.	Can you tell me more about how female students behaviour changes when they are on their period?	 Can you tell when a female student in class is menstruating? How? What role do you think menstruation plays in girls missing classes/workshops? Do you notice a difference in attendance between girls and boys?
4.	Through this research study, we aim to determine whether girls prefer to use menstrual cups or pads. *describe menstrual cups if necessary	 Do you ever hear your students discussing their preferences? From your knowledge and relationship with the girls, which product do you think they prefer, cups or pads? Why? What are some challenges you might anticipate the girls may face with the cup? With the pad? *If female teacher – which product do you prefer? Why? Do you think taboos about insertable products affect students' choice?
5.	Through AEP's menstrual health program, most girls are provided with menstrual products to use during their period.	 Does this program empower girls to better manage their period? If yes, how? If not, how? Do you notice a difference between girls who have received the menstrual products and girls who have not?
	In your opinion, how does this program impact participating students?	 Do you notice a change in female students' behaviour after a distribution of menstrual products?

Questions	Probes
6. In your view, how does the menstrual program impact the girl's families and greater community?	 What are the financial impacts of the program? What in your view are other, non-financial, benefits of the program? Are you aware of conversations about the Reuse Rise Rejoice program outside in the community?
7. How well do you think students understand the environmental impact of their selected menstrual products?	 Is environmental sustainability taught in schools? What are students taught? What do you know about how students dispose of menstrual products? In your view, how do students decide on disposal methods of their menstrual products?

Section 3: Closing

We've talked about a lot of different things today. I just have a few overall questions about your students' experience with Reuse Rise Rejoice this year.

- 1. What have been the strengths and challenges associated with Reuse Rise Rejoice programming so far this year?
- 2. Is there anything else you'd like to share with the evaluation team that we have not had the chance to discuss today?

This completes our conversation. I'd like to thank you again for your participation and for sharing your experience as an AEP teacher. If you have any questions, you can reach me at ivy.mongare@pennmedicine.upenn.edu

Qualitative Instruments – Parent & Guardian Interview

Opening Script

Hello! Thank you for making time to speak with me today. My name is Ivy Mong'are and I am a graduate student the University of Pennsylvania. I am working with the African Education Program to evaluate the Reuse Rise Rejoice program for my final capstone project.

Purpose of Project

The purpose of our conversation is to gain a better understanding of how girls at AEP experience their period to help AEP better support them in the future. This research project focuses on three key areas:

- 1. Whether girls prefer to use menstrual cups or menstrual pads
- 2. How the Reuse Rise Rejoice program affects the girls and their greater community
- 3. How well girls understand the environmental impact of their chosen menstrual products

Structure for Conversation / Logistics

- Our conversation will last approximately 20-30 minutes.
- I'd like to record the conversation. I am the only person who will have access to the recording, and I will not share it with other AEP program staff. The recording will help me to articulate what we discussed accurately. If you are uncomfortable with the recording please let me know and I will not record it.
- As a reminder, your name will not be used in connection with your responses, and if you don't
 feel comfortable answering any questions, please let us know, and we will move on to the next
 section.

Interview

I want to start by saying that I appreciate your willingness to participate and discuss the impact of the Reuse, Rise Rejoice menstrual health program on your child. As a reminder, your responses will be recorded but will not be attributed to you. Before we begin, do you have any questions for me?

Section 1: Background and Introduction

- 1. To begin, tell us a little bit about your child. (age, favourite subject etc.)
- 2. How long has your child attended AEP?
- 3. How has your child's participation in AEP impacted them overall?

Section 2: Development of Key Outcomes

Next, let's talk a little bit more about how the Reuse Rise Rejoice program impacts students, from your perspective. Some key outcomes we'll cover include participants' preference of menstrual products, program impact and environmentalism



	Questions	Probes
	How did your child first learn about	Who taught her about it? Was she proposed?
		Was she prepared? What avaith was also to sale 2 Was it a confortable.
		What exactly was she taught? Was it a comfortable
	menstruation?	conversation?
		Why at this time?
		 Do you think youth should learn about menstruation at home or at school?
2	What happened when your child had their first	How did you find out?
2.	period?	What did you do/ what did you tell her?
	periou:	Who else was told that she had started menstruating?
		Is there community discussion about menstruation?
		What are girls taught about their personal hygiene
2	How are girls taught to manage their period in	What are girls taught about the products and materials to use
3.	How are girls taught to manage their period in	during their period?
	your community?	What products or materials do you think girls should use?
		What are some challenges girl might experience managing
		their period at home? At school?
		Do you notice any differences when she is on her period
		compared to when she isn't?
4.	How should girls hohave during their period?	Should it be a secret?
4.	How should girls behave during their period?	Should a girl's behaviour be different with male family
		members than female family members? Why or why not?
		Should a girl attend school during her period?
		Have you noticed a change in your child's mood/mental health
5.	Through AEP's menstrual health program, your	and behaviour since she received menstrual products from
	child has been provided with menstrual	AEP? Describe the changes?
	products to use during their period. In your	• Is there an impact on your child's school attendance? Physical
	opinion, how does this program impact your	comfort?
	child?	What are some other ways this program has affected your
		child?
		What do you know about the products your child uses during
6.	We want to determine whether girls prefer to	her period?
0.	use menstrual cups or pads.	From your knowledge and relationship with your daughter,
	ase mensulati caps of paas.	which product do you think she prefers, cups or pads? Why?
		What are some challenges you might anticipate the girls may
		face with the cup? With the pad?
	*describe menstrual cups if necessary	*If female parent – which product do you prefer? Why?
		Do you think taboos about insertable products affect students'
		choice?



7.	In your view, how does the menstrual program impact the your family and greater community?	•	Does your child talk to you or other friends and family outside AEP about the menstrual program and products they receive? What do they say? Does your child teach you or other friends and family outside AEP how to make reusable products they learn how to make in AEP? What are some other ways this program has affected your family? What are some other ways this program has affected your community?
8.	How well do you think your child understand the environmental impact of their selected menstrual products?	•	How does your child dispose of menstrual products each month? Why do they choose to dispose of them this way? What do you think would cause them to change their disposal methods? How well does your child understand the environmental consequences of latrine disposal/burning? How well does your child understand the environmental consequences of reusable vs disposable products?

Section 3: Closing

We've talked about a lot of different things today. I just have a few overall questions about your child's experience with Reuse Rise Rejoice this year.

- 1. What recommendations would you make to improve the Reuse Rise Rejoice program?
- 2. What do you like the most about the program?
- 3. Is there anything else you'd like to share with the evaluation team that we have not had the chance to discuss today?

This completes our conversation. I'd like to thank you again for your participation and for sharing your experience as an AEP parent/guardian. If you have any questions, you can reach me at ivy.mongare@pennmedicine.upenn.edu



<u>Qualitative Instruments – Focus Group Discussion</u>

Opening Script

Hello! Thank you for making time to meet today. We are working with Ivy Mong'are at the University of Pennsylvania to evaluate the Reuse Rise Rejoice program.

Purpose of Project

The purpose of this conversation is to learn more about your experiences with the Reuse Rise Rejoice program. Will better understanding, we can work together to better support you during your period, and the best way to improve our understanding is to talk directly to you! Your experiences and thoughts will go a long way in our efforts to support you. We will use a voice recorder to make sure we capture everything you say. Anything you say will be kept confidential your identity will not be revealed.

Structure for Conversation / Logistics

- The discussion will last approximately 40-60 minutes.
- I'd like to record the conversation. This recording is private and will not be shared with other AEP program staff. If you are uncomfortable with the recording please let me know and I will not record it.

Before we begin, do you have any questions for us?

Questions	Probes
What do you like about school?	Friends, teachers, subjects
2. What don't you like about school	Waking up early, wearing school uniform, commuting to school
3. How did you feel when you started	Were you excited or nervous?
your period?	Were you at home or at school?
	 Does anyone want to share a story about their first
	period?
4. When did you first learn about	 At school or at home. Who taught you?
menstruation?	 Did you feel like you knew what to expect?
	 Who do you think should teach girls about
	menstruation?
	 Do you think boys should also learn about it?
	O What would you want them to know?
	O Who do you think should teach them?
5. How do you feel when you are on your	Is there anything you like about it? What?
period?	Is there anything you dislike? What?



	 Do you have cramps or period pains? How do you manage them?
6. Next, we will talk about the menstru	
products you have received from AEP?	
	Do you use other products not provided by AEP? Which?
7. Let's talk about the menstrual cup	 How many of you have tried to use it?
	 How many of you like it? Dislike it?
	 What are some challenges you experience the cup?
	 Difficult to clean, store, insert, remove? Leaks?
	 What would make it easier for you to use?
	 More frequent training, water to clean it, a place
	to boil for storing, if more friends used it and
	could share tips/advice
8. Let's talk about the reusable pads	How many of you have tried to use it?
	How many of you like it? Dislike it?
	 What are some challenges you experience the cup?
	 Difficulty washing, drying, leaking? Worry about
	smell?
	 What would make it easier for you to use?
	 More pads, a place to wash/dry them
9. What is challenging about having yo	What cultural practices do girls observe during their
period?	period?
period:	 How should girls behave when on their period?
	 Do you ever miss school because of menstruation? Why
	or why not?
	Can you clean and change your menstrual products at
	school? At school?
10. How do you docide which monstrual	Comfort? Cost? Availability?
10. How do you decide which menstrual product to use?	Do you use different products at different times of your
product to use:	period? Why?
11 Different requestivel and direct body	Which products do you think are the worst for the
 Different menstrual products have different effects on the environment 	environment? Why?
different effects on the environment	 Which do you think are the best for the environment?
	Why?
	Do you choose your menstrual products based on ease
	of disposal? What affects your choice?
42. Have decade Decay Bird Baile	What are the best things about the program?
12. How does the Reuse Rise Rejoice	
program affect your life?	



13. Does the RRR program affect your family and community in any way?14. (Optional) Do you need more information about other aspects of reproductive health?	 Saving money. More information. Someone to talk to. Is there anything you would change about the program? How does it affect your family and community? Do your friends and family express interest in things you learn about in the reproductive health program? Do you think the program would benefit your friends outside AEP? How? Additional information about menstruation? Reproductive health rights? Information about STIs and pregnancy? Testing? Information about sexual activity? Consent? Anything else?
15. Is there anything you can think of that would make your period easier to manage?	 Anything at all! Even if it doesn't seem possible.

Section 3: Closing

We've talked about a lot of different things today Thank you for your time IIs there anything else you'd like to share with the evaluation team that we have not had the chance to discuss today?

- 1. What recommendations would you make to improve the Reuse Rise Rejoice program?
- 2. What do you like the most about the program?
- 3. Is there anything else you'd like to share with the evaluation team that we have not had the chance to discuss today?

This completes our conversation. I'd like to thank you again for your participation and for sharing your experience as an AEP Mwalii Leader. If you have any questions, Ivy and I will share our information with you so that you can contact us.