

GNP SKILLZ Program Assessment Report

Climate and Conservation Qualitative Evaluation & Quantitative Data Review

Executive Summary

Grassroot Soccer (GRS) and Gorongosa National Park (GNP) collaborated to develop health and conservation education programming for adolescents in the buffer zone of Gorongosa National Park in Mozambique. The project implemented the SKILLZ Clubs curriculum, customized for Gorongosa National Park, to meet the specific needs of rural Mozambican adolescents. The curriculum incorporated climate change, conservation, and community activism topics, alongside reproductive health content, which was a first for GRS.

In order to understand the acceptability and relevance of the new climate and conservation content, qualitative feedback was gathered through focus group discussions with participants and Coaches and interviews with GNP staff members. To examine program effectiveness, Coach performance and acceptability as a whole, routine quantitative data including attendance and pre/post survey results were analyzed and integrated with qualitative data to form a mixed methods assessment.

The assessment findings indicate that the SKILLZ GNP intervention was highly effective, with statistically significant positive changes observed in most pre/post items. The graduation rate of 97% demonstrates the curriculum's overall acceptability.

Adolescent participants showed clear and accurate knowledge about climate change and conservation topics covered in the curriculum. They reported no difficulty understanding the sessions. However, the conservation outcome had the lowest percent change, partly due to negative change on one item.

Coaches, Master Coaches, and GNP Staff emphasized the importance of the SKILLZ methodology but reported minimal personal learning about climate change and conservation, given their proximity to GNP and experience working in the conservation sector already.

Based on the assessment results, several recommendations are proposed for future implementation to enhance the effectiveness and acceptability of the SKILLZ GNP curriculum, ensuring its alignment with the needs and expectations of adolescent participants and partners.

These include increasing biodiversity content, breaking up the sessions to reduce length, and introducing more dynamic activities. Respondents also recommended that examples in the curriculum be further localized to the Gorongosa context, such as reinforcing information on poaching and uncontrolled burning. Pre/post statements with low baseline and no significant change require further investigation regarding coaches' understanding of content and facilitation skills. Finally, GRS program support and Coach visits are encouraged for the next implementation cycle.

Background

Grassroot Soccer (GRS) and Gorongosa National Park (GNP) partnered beginning in 2021 to develop and implement health and conservation education programming for adolescents in the buffer zone of Gorongosa National Park in Mozambique, funded by the Cameron Schrier Foundation. GRS provided a comprehensive technical assistance package to develop customized SKILLZ programming tailored to the health and conservation context of adolescents in the park, ensuring capacity development of GNP to scale the program.

The project implemented a curriculum called SKILLZ Clubs (adapted for Gorongosa National Park) which was designed to meet the needs of Mozambican adolescent girls and boys aged 10-19 years participating in Girls and Youth Clubs in the communities surrounding Gorongosa National Park Buffer Zone. In addition to the core reproductive health related content which is a signature of SKILLZ, the curriculum incorporated additional topics on climate change, conservation and community activism, which are of particular concern to Gorongosa National Park. Two brand new practices on these topics were developed for the GNP curriculum, including 'Climate Change 101' and 'Climate Resilience.' These practices aimed to cover conservation and climate content identified by GNP and GRS as critical for adolescent participants, and aimed to integrate these topics with SRHR content in the rest of the SKILLZ GNP curriculum.

GRS undertook a qualitative evaluation to gather initial feedback on these new practices as they were implemented by Coaches with existing Youth Clubs and Girls' Clubs in the park. Additionally, GRS analyzed routine quantitative data collected during SKILLZ GNP implementation.

Objectives

Qualitative:

1. Explore adolescent participants' perspectives on GNP SKILLZ curriculum climate and conservation content, activities, and implementation
 - Understand participants' climate change & conservation knowledge after participating
 - Understand participants' perspectives on resilience & adaptation
2. Examine Coach perspectives on GNP SKILLZ curriculum climate and conservation content, activities, and implementation
3. Understand GNP staff perspectives on GNP SKILLZ curriculum climate and conservation content, activities, and implementation

Quantitative:

1. To assess program effectiveness
2. To assess coach performance during delivery of intervention
3. To assess acceptability of intervention

Methods

Qualitative:

Qualitative data collection was conducted in December 2022 by GRS and GNP staff. Interviews and focus group discussions (FGDs) were conducted in Portuguese and recorded, then transcribed and simultaneously translated into English for analysis by GRS staff, who applied a thematic analysis approach using google jamboard and synthesized data in appropriate categories.

Data collection engaged a total of 19 Girls' Clubs participants aged 10-16, 48 Youth Club participants aged 14-21, seven Coaches, two Master Coaches, and three GNP staff members who were also trained as Master Coaches. Respondents are detailed below:

Table 1: Focus Group Discussions

Respondent Type	Site	Number of participants & age
Girls' Club Participants	Muanza/Gorongosa	n=12, age 10-16
Girls' Club Participants	Maringue/Cheringoma	n=7, age 12-13
Youth Club Participants (mixed gender)	Mondlane	n=12, age 14-20

Youth Club Participants (mixed gender)	Mondlane	n=12, age 14-19
Youth Club Participants (mixed gender)	Nelson Mandela Secondary School	n=12, age 15-19
Youth Club Participants (mixed gender)	Cristo Rei Secondary School	n=12, age 14-21

Table 2: Interviews

Respondent Type	Site	Participant Gender & Age
Coach Pair	Gorongosa	Female age 25, male age 37
Coach Pair	Gorongosa	Female age 34, male age 37
Master Coach	Gorongosa	Male age 24
Coach	Gorongosa	Female age 28
Coach Pair	Gorongosa	Male age 29, male age 34
Master Coach	Gorongosa	Female age 29
GNP Staff - District Education Supervisor	Chitengo	Male age 28
GNP Staff - Youth Club Program Manager	Gorongosa	Male age 40
GNP Staff - Girls' Club Program Manager	Gorongosa	Female age 33

Quantitative:

The GRS routine monitoring and evaluation system utilises Coaches to collect attendance at every SKILLZ practice using a participant register, as well as administer a pre- and post-intervention survey. The pre-post challenge had 22 statements. The same statements are administered to participants before and after interventions to assess change in knowledge and attitudes around gender based violence, sexual and reproductive health (SRH) and knowledge on conservation among adolescents that went through SKILLZ Gorongosa interventions. The proportion of participants giving the desired response was

calculated at pre and at post. McNemar's paired t-tests were used to assess differences between pre and post scores. Significance levels of $p < 0.05$, were considered to show strong evidence, though differences of $p < 0.10$ were also considered in the interpretation of findings as weak evidence. Coach support visits are also recorded when conducted to monitor Coach performance and provide constructive feedback.

Results

Qualitative:

Acceptability of climate and conservation content

Participants

Overall, the SKILLZ program received very positive feedback from participants. The climate and conservation activities were highly acceptable, with several participants naming those sessions among their favorites:

I liked the conservation of the environment because it is very important, and also sexual and reproductive health [Youth Club 4 Participant, FGD, Gorongosa]

[I liked] Environmental conservation, because it is an interesting topic that we should do. [Girls Club 2 Participant, FGD, Chitengo]

Participants highlighted that they enjoyed and appreciated the games and how the activities were delivered by the Coaches:

[Regarding the climate and conservation sessions] The practices are good. I liked it because they bring SKILLZ games and it is very easy to understand. The messages are being conveyed well. [Youth Club 1 Participant, FGD, Gorongosa]

In the Club we got more skills to be creative, to solve a problem before it happens, to be more mentally prepared and for the world, we talked about conservation of the environment, to avoid leaving things anyway, like littering, and to always be decent as young people. [Youth Club 1 Participant, FGD, Gorongosa]

Other sessions and activities highlighted by participants as favorites included gender equality,

SRH, I am important, understanding HIV, drug abuse, healthy communication, and my body is mine.

Nearly all participants in the youth clubs and girls' clubs reported that they found the climate and conservation content easy to understand, with Coaches able to explain concepts well:

*They were not very difficult to learn because they are aspects that relate to everyday life.
[Youth Club 1 Participant, FGD, Gorongosa]*

Well, I think it wasn't very difficult. Through SKILLZ, people were happy to play and it was fun and we learned fast... Until it was a little difficult but when the Coaches explained and we practiced, we learned that it was something that gave a lot of knowledge about climate change. [Youth Club 3 Participant, FGD, Gorongosa]

Coaches, Master Coaches, and GNP Staff

Coaches and Master Coaches additionally provided overall positive feedback on the climate and conservation content and activities. They noted that the content was relevant to young peoples' lives, and that the SKILLZ methods improved the discussion of these difficult topics:

Through the use of games, football in particular, the dynamics of passing on information has taken on a different dimension. It has sparked more interest in young people and added more life to the Conservation and Climate sessions. Young people are more open to discuss general aspects. [Female Coach 1, IDI, Gorongosa]

*Liked the interaction and the contents that reflect the daily life of our young people.
[Master Coach 3, Gorongosa]*

Liked: The topics are really suitable for young people. We read the questions and discuss them together. The issue of creating safe spaces makes young people more open to discussing personal aspects. [Female Coach 2, IDI, Gorongosa]

I say that for me, the climate change sessions (all others) create in the participants an openness and a willingness to discuss, by the way the SKILLZ manual guides to facilitate, the sessions are better perceived. [Female Coach 1, IDI, Gorongosa]

Coaches and Master Coaches also reported that the climate and conservation content was generally easy to understand, and that they had minimal difficulty facilitating these sessions:

I felt good, even though I had one of the practices that I didn't master, but because we work with 2 Coaches, my partner alerted me and I was able to do it correctly. I was worried but then I was fine, with the help of my partner. [Female Coach 2, IDI, Gorongosa]

However, one Master Coach also noted that they did not think the climate resilience concept was well-understood, in contrast to reports from other Coaches and staff:

Climate resilience is not well perceived. It doesn't seem to be well understood in practice. [Female Master Coach 6, IDI, Gorongosa]

GNP staff were highly appreciative of the SKILLZ methodology and facilitation strategy, but generally had more recommendations on how to improve the climate and conservation parts of the program:

This [SKILLZ] culture is one of the best, no other methodology surpasses that! [Male Staff, IDI, Gorongosa]

The SKILLZ methodology is fine, but the contents on climate change and biodiversity conservation are weak. One could reinforce the contents on poaching, uncontrolled burning. [Female Staff, IDI, Beira]

Effects on knowledge, attitudes, and behavior

Effects on participant knowledge and behavior

Through their responses in focus group discussions, participants clearly demonstrated understanding of the key concepts in the climate and conservation activities. When asked to give examples of what they had learned in these sessions, all groups were able to provide multiple responses that align with the curriculum content:

We must take care of the trees and we cannot pollute the water because we can kill the

animals that are consuming this water. [Girls Club 2 Participant, IDI, Chitengo]

In the case of Environmental Conservation, we must know how to cultivate the habit of leaving the environment clean. For us to know how to conserve plants and animals and we have to prevent the environment from going bad. [Youth Club 1 Participant, FGD, Gorongosa]

Climate/climate change is the result of human actions that affect us or alter the environment. In past years, the rainy season has changed. It is the change in temperature that happens in the world, e.g. heat, cyclones, floods... which is the result of human action [Youth Club 4 Participant, FGD, Gorongosa]

Resilience - the ability of human beings to return to the way they were before and continue to be steadfast after disaster strikes. In order for us to be resilient in climate change we have to preserve the environment - prevent it from being destroyed by climate disasters. [Youth Club 2 Participant, FGD, Gorongosa]

These responses were generally correct, but some examples were given that were not entirely correct, such as 'smoke from factories destroys the ozone layer and creates more heat.'

Based on the examples provided, it also appears that participants had exposure to conservation information outside the SKILLZ curriculum, providing examples not covered in the curriculum, such as not killing animals to extract ivory. This is consistent with participation in a club sponsored by Gorongosa National Park.

Coaches also highlighted their observations of changes in participant behavior, and communicating conservation messages to others outside their clubs:

Us hearing from a 10-to-16 year-old girl telling her family or community members that they can't cut down trees because it will make it rain unevenly, is commendable. We saw them here today saying we can't kill the animals to sell the horns, that's a sign that their Coaches have been well trained. [Female Master Coach 6, IDI, Chitengo]

They really get it, for example today one of them threw a paper on the floor but the other

one picked up the paper and went to deposit it in the trash can. [Female Coach 2, IDI, Gorongosa]

Effects on Coaches and Staff

When asked about what they had learned themselves about climate and conservation, most Coaches highlighted the SKILLZ methodology, which improved their skills as leaders of youth and girls' clubs:

Not necessarily something new about climate and conservation but I learned how to debate these issues in a more entertaining way. [Female Coach 1, IDI, Gorongosa]

It has affected my way of working with teenagers and young people which is more about creating and respecting safe spaces. [Female Coach 4, IDI, Gorongosa]

For me it was very helpful. I have been in education for 17 years, of which more than 10 years without training. SKILLZ has helped me to have new ways of facilitating practices and sessions that even in my service I apply to explore more discussion in the class. [Female Coach 2, IDI, Gorongosa]

This was also highlighted by GNP staff, who also highlighted SKILLZ methodology as the main thing that they learned. This is not altogether surprising for employees of the national park with more experience in conservation.

One Coach reported that their own knowledge increased as a result of SKILLZ training:

For me it increased. When we were in the training there was a pre-test where one of the questions I had given an option that I later realized I didn't know, and the post-test revealed that. [Female Coach 2, IDI, Gorongosa]

Feasibility

Implementation challenges

As addressed above, Coaches and Master Coaches generally found the program to be highly acceptable, but they also shared challenges they faced while implementing the program. Coaches highlighted challenges implementing certain practices, for instance practices which

had long debates or where they didn't like the language of the FACT/NONSENSE activities which led them to modify how they delivered the practices:

For me, the practices were easy. I never skipped the practices as such but some expressions of the FACT/NONSENSE I had to modify. [Female Coach 1, IDI, Gorongosa]

Having some themes/ Sessions with long debates was a bit challenging. [Female Coach 2, IDI, Gorongosa]

The time it takes for members to understand, it takes a long time for participants to understand the game of practices, so the Coach has to take a lot of time to prepare and explain. [Male Master Coach 3, IDI, Gorongosa]

One Coach observed how some participants couldn't make independent decisions during the fact/nonsense sessions, rather imitating what the other participants chose:

In the Fact/Nonsense practice, since it was in groups, some groups could imitate and copy the position of the others. It would be better to put the practice with the ball. [Male Coach 5, IDI, Gorongosa]

Coaches also found it difficult at times to know which content to deliver to the participants, vs. what parts of the curriculum were for them:

Another challenge is to know how to select what content that they should know and what should be passed on to the participants during the intervention of the practices in the Girls' Clubs in particular. [Female Staff 3, IDI, Beira]

Coaches expressed lack of materials as inhibiting how they delivered the activities, which was also highlighted by some of the participants.

The lack of material, we have been without cones and we use stones which sometimes cause accidents to the teenagers. [Female Coach 2, IDI, Gorongosa]

*The materials we used were not enough (balls, cones, we didn't have boards, etc.).
[Girls Club 2 Participant, FGD, Chitengo]*

One GNP staff member cited GNP logistics as a challenge, and though they did not specify the details, they did note that the challenge had been addressed through the course of implementation

SKILLZ Impact Projects

SKILLZ Impact Projects, community projects included in supplemental curriculum practices, were not implemented by any of the Youth or Girls' Clubs. It was unclear if any Coaches or staff knew of the optional SKILLZ Impact projects included in the curriculum:

There are no impact projects, but the clubs in another scope, carry out several impact projects such as: income generation project skills, cutting and sewing, botanical gardens among others. [Female Staff 3, IDI, Beira]

In SKILLZ they don't do impact projects, but in the Club in general they have done projects of: - planting the trees, irrigation, - lectures in the schools. [Youth Club 3 Participant, FGD, Gorongosa]

The respondents however shared that they developed different projects in the clubs such as botanical gardens, income generation skills related to tailoring or craft and community service which involved garbage collection and cleaning schools and communities:

Our girls learn how to make: cloth dressings, clay pots, brooms, survival agriculture, gardens etc .The community responds well. [Male Staff 1, IDI, Chitengo]

Respondent recommendations for improvement

Respondents provided a number of recommendations for improvement based on their experiences, some of which related to the curriculum content and activities. Participants, Coaches, and GNP staff all suggested adding more climate, conservation, and biodiversity topics in the curriculum:

About climate change, we are not done, we should talk more (increase the sessions) about the animals and plants i.e how to plant the trees. [Youth Club 4 Participant, FGD, Gorongosa]

The SKILLZ methodology is fine, but the contents on climate change and biodiversity conservation are weak. One could reinforce the contents on poaching and uncontrolled burning. [Female Staff 3, IDI, Beira]

Add topics on conservation of the environment: how to plant, how to conserve, the importance of conservation areas...etc. [Male Coach 5, IDI, Gorongosa]

Increase the practices on biodiversity, conservation and climate change, as they are the Core Business of the GNP; An attempt was made to link the GRS core business with the GNP core business, but it was noted that the GNP core business was too limited. Link the themes of Sexual and Reproductive Health with Biodiversity and climate change [Female Staff 3, IDI, Beira]

Specific feedback on the language of Fact/Nonsense was also provided by Coaches, with one highlighting that the translation of 'nonsense' was interpreted as 'bullshit' in Portuguese, and they felt that was not appropriate for youth participants.

One Master Coach provided very specific feedback on the climate resilience activity, recommending that rather than the soccer balls being the obstacles/climate hazards, the person/defender(s) should represent the climate hazard(s).

Respondents also suggested including more 'dynamic' activities in the climate change session, not only Fact/Nonsense. They also recommended providing more materials, especially balls, required to support the delivery of the sessions, as it posed a challenge during facilitation of the practices:

Solution to the challenge: increase the practices, have more games in the practices, and add the topic about resilience. [Male Staff 2, IDI, Gorongosa]

The manual has many activities that use balls, they should provide us with the available and sufficient material (soccer balls). [Female Girls Club 2, FGD, Chitengo]

For the activities, I would like them to provide us with the plants for the Club practices regarding the botanical garden. [Female Coach 1, IDI, Gorongosa]

One participant also suggested providing a room where they could sit, in order to avoid standing throughout some of the longer sessions.

Coaches and Master Coaches suggested adding local examples in the curriculum despite climate change issues affecting people around the world:

I implemented them according to what we have in the manuals. But the FACT/NON SENSE should be and have specific and local examples looking at our Gorongosa reality. [Female Coach 1, IDI, Gorongosa]

What happens in other countries regarding climate change is not different but maybe I would suggest bringing practical examples from our communities. [Female Master Coach 6, IDI, Chitengo]

Coaches also suggested reviewing the manual to better align the language with local understanding and locally-used terms.

Many Coaches also recommended refresher trainings that will allow the Coaches to retain the information based on some of the challenges they experienced when facilitating the sessions.

Regarding the GRS, this follow-up is a good sign. If we could have a refresher training 1 or 2 times a year as a way to exchange experiences between the promoters and Coaches. [Male Staff 1, IDI, Chitengo]

The promoters should be consulted after 6 months of application of the curriculum (evaluation) and more support should be given to the field - visits to support the Coach,

made by the Master Coaches and Managers. [Female Staff 3, IDI, Beira]

Coaches and GNP staff also requested to be connected with other SKILLZ implementers to allow them to interact and share their experiences:

Create a communication network with other Coaches from other countries that have the same curriculum and similar interventions. [Male Coach 5, IDI, Gorongosa]

Quantitative:

Participants and Graduates

In total, the project implemented 34 SKILLZ interventions where 1136 participants were reached and 1106 graduated, representing a graduation rate of 97%. The original target for the project was to reach 800 participants, which was successfully achieved. However, the target was then expanded to 1890, and this was not reached, meaning that implementation only achieved 60% of the target for participants and 65% for graduates:

Table 3: Summary - Participants and Graduates in relation to target

	Participants	Graduates
Number	1136	1106
Target	1890	1701
Achievement toward target	60.1%	65.0%

Over 90% of participants were female (n=1046 of 1136) and only 8% were male (n=90/1136). This is largely due to the presence of single gender girls clubs that are well-established in the implementation areas. Participants and graduates broken down by site and gender are shown in the table below:

Table 4: Participants and Graduates by Site and Gender

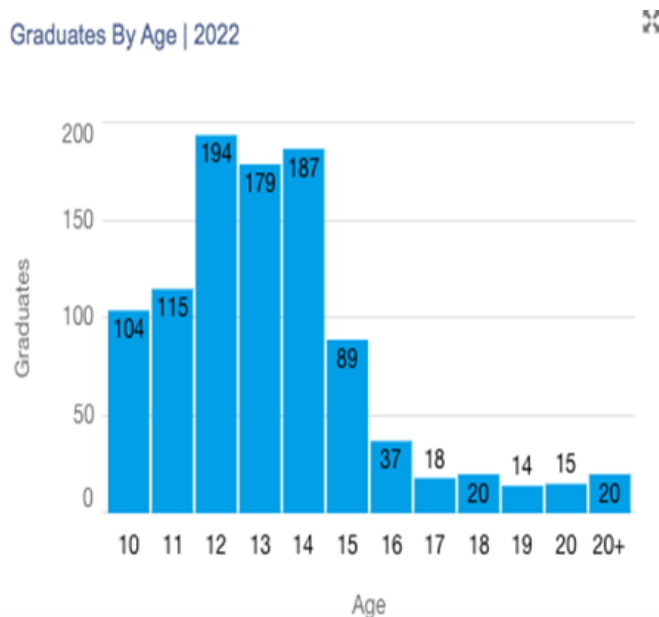
Site	Participants			Graduates			Graduation Rate
	Male	Female	Total	Male	Female	Total	
Cheringoma	25	82	107	25	82	107	100%

Gorongosa	20	271	291	20	271	291	100%
Nhamatanda	45	693	738	45	663	708	96%
Total	90	1046	1136	90	1016	1106	97%

Graduate Characteristics

Out of the 1106 graduates, 90 (8%) were male while 1016 (92%) were female. The average age of the graduates was 13 years, the minimum age was 10 years and the maximum age was 22 years. Age distribution of graduates is shown in figure 1 below:

Figure 1: Graduates by Age



Intervention Duration

Intervention duration varied widely: the average duration was 53 days, while the minimum was 8 days and the maximum was 114 days.

Attendance

Analysis of the attendance data shows that 1106 graduated, representing a graduation rate of 97% which exceeds the GRS target of 90%. Figure 1 below shows how participants attended sessions throughout the 20 sessions. There is a downward trend towards the last five sessions, shown in figure 2 below:

Figure 2: Participant attendance across sessions

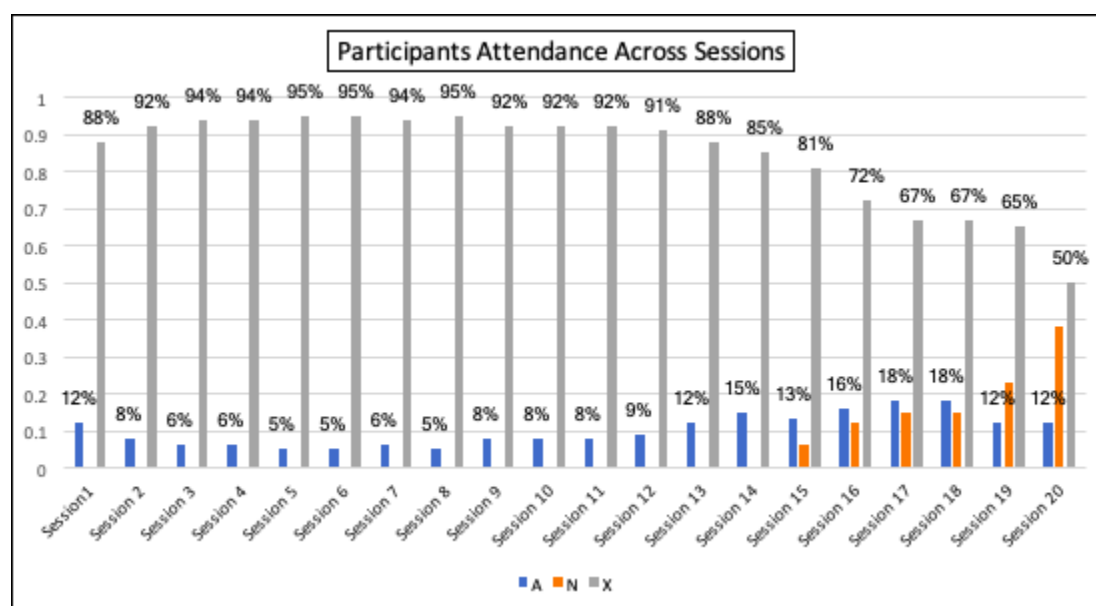


Figure 1: Percentage of participants attending sessions over the course of the intervention

A=Absent; N=No Session was Implemented; X=Attendance

Training and Coach Development

A total of 15 Master Coaches and 211 Coaches were trained to implement SKILLZ. 46 Coaches implemented interventions, while only 3 Master Coaches implemented. No Coach Support Visits were recorded in the GRS system, despite 15 Master Coaches trained for the project. However, this was because the GNP team conducted support visits and recorded them using their own form.

Pre-post Results

Specific objectives measured in the SKILLZ Clubs pre-post survey include the following - to assess change in:

- Participants with improved attitudes and beliefs regarding gender norms;
- Participants with comprehensive knowledge on HIV, sexual and reproductive health and rights, and related services;
- Participants who make their own informed decisions regarding contraceptives, sexual relationships, and reproductive healthcare;
- Participants who feel supported to overcome challenges they face and make the right health-related decisions;
- Participants with improved self-efficacy to make good decisions around their health; and

- Participants with improved knowledge and attitudes on conservation

A total of 305/1136 participants took the pre-post challenge, representing 27% of total participants. Of this group, 223 were female (73.1%) and 83 were male (26.9%).

At the individual level, scores were analysed based on the following:

- Participant Pre-Score: Total number of statements the participant got correct at pre-challenge divided by total number of statements in the pre-post challenge multiplied by one hundred.
- Participant Post-Score: Total number of statements the participant got correct at post-challenge divided by total number of statements in the pre-post challenge multiplied by one hundred.
- Percent Change = $[(\text{Participant Post Score} - \text{Participant Pre Score}) / (\text{Participant Pre Score})] \times 100$

Key observations from these results include that 144 participants (47%) showed overall positive percent change from pre- to post-survey. 99 participants (33%) showed no change, and 62 participants (20%) showed negative percent change.

The pre-post survey was also analysed by item, where the percentage of participants answering correctly at pre-test formed the pre score, and the percentage of participants answering correctly at post-test formed the post score, then percent change was calculated accordingly:

- Percent Change = $[(\text{Post Score} - \text{Pre Score}) / (\text{Pre Score})] \times 100$

Results by individual item and outcome are presented below in table 5:

Table 5: Pre-post results by item and outcome

Outcome	Pre	Post	% Change	P-value
Participants with improved knowledge and attitudes on conservation	64%	71%	11%	
#2 I know the importance of Gorongosa National Park to the biodiversity conservation	78%	85%	9%	0,001

#4 I know what areas in my community are more affected by biodiversity conservation threats.	60%	66%	10%	0,009
#5 I know which activities contribute to the destruction of the biodiversity.	61%	76%	25%	0,000
#21 The community can kill animals in Gorongosa Park when they need to because animals don't run out.	56%	66%	18%	0,000
#22 Cutting down trees helps increase rain.	66%	63%	-5%	0,179
Participants who feel supported in their life	65%	84%	29%	
#9 I know where to get support services for me or someone else, for prevention of teenage pregnancy.	60%	78%	30%	0,000
#14 I would report to someone if I were touched in a manner that made me feel uncomfortable.	57%	72%	26%	0,000
Participants with improved attitudes and beliefs regarding gender norms	49%	59%	20%	
#15 Gender equality is only beneficial to girls and women.	60%	75%	25%	0,000
#17 A successful marriage is more important to girls than completing school.	45%	45%	0%	0,869
#20 It is only the girl's responsibility to avoid getting pregnant.	43%	58%	35%	0,000
Participants with increased comprehensive knowledge of HIV and other SRHR Services	65%	77%	18%	
#1 I know how to ask for help if someone is violent against me.	70%	89%	27%	0,000
#3 If a woman misses her period, this could mean she is pregnant.	51%	64%	25%	0,000
#6 Having sex with an older partner increases my risk of getting HIV.	79%	85%	8%	0,001

#7 I know what changes to expect in my body during puberty.	67%	84%	25%	0,000
#8 I know at least three methods to avoid an unintended pregnancy.	59%	73%	24%	0,000
#10 I know where to access SRH services without fear or shame.	61%	75%	23%	0,000
#13 I have the right to access sexual health services such as HIV testing and STI testing.	71%	79%	11%	0,000
Participants who make their own informed decisions regarding contraceptives, sexual relationships, and reproductive healthcare	51%	64%	25%	
#12 I can make my own informed decisions about my sexual healthcare.	56%	79%	41%	0,000
#16 A daughter should always respect her parents' decision for her to get married.	45%	49%	9%	0,070
Participants with improved self-concept	62%	74%	19%	
#11 I feel dirty when I am menstruating.	63%	63%	0%	0,789
#18 I can abstain from sex until I am older, even if it is difficult.	74%	91%	23%	0,000
#19 I feel confident setting measurable goals.	55%	71%	29%	0,000

19 of 22 statements showed positive percent change from pre- to post-test, two had no change, and 1 had a negative percent change. Of the 19 statements with a positive percent change, 16 showed improvement of at least 10%, meeting the usual SKILLZ target value for pre- to post-test change. Additionally, 18 of the 19 items that showed positive percent change showed strong evidence of statistical significance ($p < 0.05$, P-value column shaded green), and the remaining one item showed weak evidence of statistical significance (shaded yellow in the p-value column). The one item that showed negative percent change (“Cutting down trees helps increase rain”) demonstrated no evidence of statistical significance (shaded red in the p-value column)

Items #16 and 17 focused on gender equitable attitudes (“A daughter should always respect her parents' decision for her to get married” and “A successful marriage is more important to girls than completing school”) had pre and post scores below 50%. The statement “It is only the girl's responsibility to avoid getting pregnant” also had a low pre score of 43% and post score of 58%. This was also reflected in the overall outcome on “Attitudes and beliefs regarding gender norms” which had a pre score of 49% and post score of 59%.

To calculate each pre-post outcome, the average pre score of each included item was calculated and compared to the average post score to calculate the percent change. Three outcomes, SRHR comprehensive knowledge, feeling supported and making informed decisions regarding SRHR had all statements showing strong evidence of statistical significance $p < 0.05$. The outcome ‘improved attitudes and knowledge around conservation’ showed the lowest percentage improvement, due largely to the negative change in item #22 (‘Cutting down trees helps increase rain’).

Limitations

- Only 8% of participants were male, and 92% were female. This limits any comparisons by gender.
- Item #11 (‘I feel dirty when menstruating’) was mistakenly included in the pre/post, and while intended only for girls, some boys responded to it. It will be removed for future delivery of the SKILLZ Clubs curriculum.

Conclusions & recommendations

The overall effectiveness of the SKILLZ Clubs intervention was high, supported by statistically significant positive change on nearly all pre/post items. Additionally, the 97% graduation rate indicates high overall acceptability of the SKILLZ Clubs curriculum.

The climate and conservation content in the SKILLZ Clubs curriculum represent the first attempt of GRS to integrate these topics with SRH and other traditional SKILLZ topics. Overall, the activities and content in the ‘Climate Change 101’ and ‘Climate Resilience’ practices were highly acceptable to adolescents, Coaches, and GNP staff, though respondents had numerous recommendations for improvement.

Adolescent participants in both Youth Clubs and Girls' Clubs were able to give clear and largely correct responses about what they learned from the SKILLZ climate and conservation activities, and reported that they had no difficulty understanding these sessions. However, the conservation outcome showed the lowest percent change on the pre-post, due in part to negative change on one item.

Coaches, Master Coaches, and GNP Staff members interviewed highlighted the SKILLZ methodology as the most important thing they learned through taking part in the program, and reported minimal personal learning about climate change and conservation, which is understandable given their proximity to GNP.

Recommendations

Based on quantitative data, the following recommendations for SKILLZ Clubs are presented:

- Pre/post statements with low baseline (45%) and no or weak evidence of statistically significant change require further investigation on coaches' understanding of content and facilitation skills around this content. For example, "A daughter should always respect her parents' decision for her to get married" and "A successful marriage is more important to girls than completing school"
- The increase in interventions not delivered over the course of the project requires further investigation especially considering the curriculum has twenty sessions.
 - Consider combining sessions if there were no external factors that cause Coaches not to deliver sessions
- GRS program support and Coach support visits are encouraged in the next cycle of implementation.

Taking into account respondent recommendations, GRS presents the following draft recommendations for future implementation of the SKILLZ Clubs climate and conservation activities:

- Consider breaking up 'Climate Change 101' into multiple practices to reduce the length – this was highlighted due to the large number of Fact/Nonsense statements and high volume of information conveyed in a single activity.

- In revising 'Climate Change 101,' also consider adding more dynamic activities/games.
- Ensure that climate and conservation content is localized appropriately and meets the expectations of the partner in terms of key issues and examples used. For instance, reinforcing content on poaching and uncontrolled burning, and ensuring that locally-understood terminology is used.
- Integrate SKILLZ Impact projects into the curriculum rather than as optional activities at the end. No Gorongosa Girls or Youth Clubs implemented SKILLZ Impact projects according to the curriculum, despite actively working on other community projects outside of SKILLZ.
- Help partners plan for provision of sufficient materials such as balls and cones for implementation of practices wherever possible.
- Develop connections for Master Coaches to be in touch with implementers in other settings in order to share experiences and solve problems together.