Tanzania McGovern-Dole International Food for Education and Child Nutrition Program – FFE III Endline Evaluation Brief

This brief presents the key findings from the end line evaluation of the McGovern-Dole Food for Education (FFE III) program in Tanzania, an initiative carried out by Project Concern International (PCI), a Global Communities partner, with funding from the United States Department of Agriculture (USDA). PCI implemented FFE in three phases, with this final FFE III program phase (October 2016 to December 2021) being carried out in 231 schools in the Bunda, Butiama and Musoma districts in the Mara Region of Northern Tanzania.

Methodology

The final evaluation used mixed methods, including quantitative surveys and qualitative research activities. A quasi-experimental design methodology, with treatment schools (in the Bunda, Butiama, and Musoma districts) and control schools (in the Serengeti district), was used for the quantitative components.

50 treatment and 50 control schools were sampled, following the same two-stage cluster sampling approach used at baseline and midline. This allowed for a difference-in-difference (DID) analysis to assess the impact of program interventions against core indicators. A total of 1,200 grade 2 and 4 students and 200 grade 6 and 7 students were sampled in treatment schools, as were 1,199 grade 2 and 4 students and 198 grade 6 and 7 students in control schools. A total of 400 treatment school and 398 control school parents were also sampled. In both treatment and control schools 50 head teacher surveys, 50 classroom observations (including 50 teacher surveys), 400 student absence assessments, and 50 sustainability and readiness assessments were conducted.

For the qualitative component, a purposeful sampling approach was followed to obtain maximum variation, and school sites were selected based on identified performance criteria during the inception phase. A total of 53 focus group discussions (FGDs) were conducted with students in grades 2 and 4 and 6 and 7, parents of students in treatment and control schools, as well as teachers (garden, store, and literacy), members of Parent-Teacher Associations (PTAs), Women Empowered (WE) group members, and farmer group members in treatment schools. In addition, a total of 15 key informant interviews (KIIs) were conducted with various program stakeholders including village chairpersons, district education officers, the regional education officer, PCI staff and representatives of USDA.

Evaluation Findings

Program Design and Relevance

Overall, the program components were relevant to support the improvement of education and quality of learning within the region. Notably, a key success of the program is the Government of Tanzania's (GoT's) request for PCI's support to develop Tanzania's first National School Feeding Guidelines (NSFG) based on PCI's experience and technical capabilities, and with the goal of scaling PCI's current model across all 20,000 schools in Tanzania. In 2020, using the PCI program as a model, the Mara Regional Administration

also began the process of developing its Mara Regional School Feeding Strategy (MRSFS) and requested PCI to be its key technical partner to support the development and operationalization of the strategy. In February 2021, the MRSFS was approved and will soon guide the rollout of school feeding programs in all eight districts of the Mara Region. The Mara Region is the first region in Tanzania to have its own School Feeding Strategy.

With noted challenges in the implementation of the school feeding program, the PCI implementation schedule, phase-out and transition to communities and stakeholders was expedited due to import tax changes in Tanzania and challenges of procuring food within Tanzania. To accommodate this schedule, community sensitization was intensified, and systematic, school-based recording and action plans were established. The transition from a model of external food commodity provision and distribution by an international NGO to a system dependent on community members and parents for contributions is likely to take time and persistent messaging. Thus far, PCI has played an instrumental role in moving towards this community-based system.

Outcomes and Results
According to PCI's results framework, the FFE III program in Tanzania focused on achieving results under Strategic Objective 1 – improved literacy of school-age children – and Strategic Objective 2 – increased use of health and dietary practices. Overall, 19 of the 36 key performance indicators in the Performance Measurement Plan (PMP) were met or exceeded, 3 indicators were almost met, and 14 indicators were not met.[1] Generally, targets were more commonly met or exceeded for Strategic Objective 1 (15 of 29 targets met), than for Strategic Objective 2, where 7 of 17 targets were met or exceeded. By end line, a total of 260,568 individuals benefited directly from PCI interventions, with another 353,897 indirect beneficiaries.

Community Contributions to the School Feeding Program
PCI's FFE program's main intervention up until its third phase of the McGovern-Dole project has involved the provision of imported food commodities for its school feeding program aimed at improving health and learning outcomes, attendance, and attentiveness of students at the primary level. In 2019, the strategy of direct provision to community and parental contribution was intensified. Between June 2020 and April 2021, 124.15MT of food commodities from school gardens, parents, school farms, farmer groups, and Women Empowered (WE) groups were mobilized for the provision of meals to students. There was a 46.9% increase in the commodities provided by community and school sources from midline to end line, illustrating how PCI's increased focus on community and parental contribution has been successful. At the time of the end line, 66% of treatment schools provided meals to all grades, while another 18% provided meals, although not specifying which children accessed these meals. Most schools surveyed (94%) have record keeping systems in place for commodity management. Overall, more than 34 million daily school meals (breakfast, snacks, and lunch) were provided at treatment schools.

A total of 61.2% of treatment school parents reported that their family had provided food commodities to the school in the last six months (outside of WE groups' and farmer groups' donations). Additionally, 65.3% of parents from treatment schools reported providing monetary contributions in the last six months towards school expenses, such as a guard, cook or purchase of food commodities. Most treatment schools (82.0%) are confident that the school feeding programs supported by PCI will be sustained, and 91.5% of parents state they are willing to contribute (although in practice this has been much more challenging in the light of socio-economic constraints).

---

[1] Evaluation finished before records for last 6 months (March-Sept 2021) were available, thus additional targets may be met.

There is evidence of program impact in terms of the minimum acceptable diets with 19.8% of school-age children in treatment schools having achieved a minimum acceptable diet (compared to 14.5% in control schools).

Improved Quality of Literacy Instruction

The program distributed a total of 399,526 textbooks and other teacher and learning materials throughout the program cycle, and a total of 943 teachers and educators were trained. Quantitative findings show that 78.0% of headteachers agree that the PCI FFE program has improved the quality of learning at their school 'very much', while 22.0% indicate 'much'. The most common improvements provided were that garden, food and agriculture projects have progressed well (36.0%), attendance has been good (26.0%), skills and knowledge in teaching have improved (26.0%), classroom/school achievement has increased (22.0%), health has improved (14.0%), toilets have been constructed (10.0%), and student illiteracy has decreased (8.0%).

In terms of teaching methods, 61.9% of treatment teachers stated they are now using the involvement learning method, 21.4% mentioned teaching children through games, 16.7% said they were more involved in the preparation and usage of teaching tools, 9.5% now utilize the debate method in groups during their teaching, 7.1% use singing as a learning method, and 7.1% felt more able to teach how to read words with correct alphabetical pronunciation. Through classroom observations related to teacher use of new teaching aids, it was found that older teachers and teachers working in very large classrooms were significantly less likely to employ new teaching tools. Importantly, teachers that reported being trained by PCI reported a 10% higher rate of usage of these techniques, and the parameter is significant.

The program has had a positive effect on student literacy achievements. Early Grade Reading Assessment (EGRA) results show a generally positive trend for treatment schools with two of the three benchmark indicators showing increases in the percentage of both grade 2 and 4 students reaching the benchmarks[2] and significant DID results in the favor of treatment schools for all these indicators (Table 1). This positive trend continues when looking at average scores, as well as the non-indicator EGRA sections.

Table 1: Percentage of Grade two and four students achieving benchmarks for EGRA Indicators

EGRA measure	Grade 2 (%)		Grade 4 (%)	
	Baseline	End line	Baseline	End line
Devised words (% benchmark)				
Control	4.0	1.5	5.0	12.7
Treatment	2.0	14.2**	12.0	40.4**
Oral reading fluency (% benchmark)				
Control	25.3	1.0	35.0	22.8
Treatment	19.3	9.2**	45.0	40.9+
Reading comprehension (% benchmark)				
Control	16.3	4.0	22.0	31.8
Treatment	7.3	19.0**	25.0	50.8**
** DID Parameter is significant at p<=0.01 level; * DID Parameter is significant at p<=0.05 level; + DID Parameter is significant at p<0.10 level				

---

[2] Note that there may have been incorrect measurements for oral reading at baseline.

Overall, some evidence was found that EGRA scores, especially in grade 2, have been positively impacted by parental participation in WE groups. The percentage of parents who are in the WE groups is consistently associated with higher EGRA scores.

Improved Attentiveness

Overall, there was very little change from the baseline to end line and no significant DID results for the student-level indicators of feeling hungry while at school the previous day and attentiveness in the classroom. A total of 52.0% of treatment school students state that the size of school meals always fills them up, 9.9% state that school meals sometime fill some up, and 37.6% state that school meals do not fill them up. This is supported by qualitative observations by teachers who also highlight that hungry children are less likely to be attentive. The study did find a small but significant positive effect on off-task students associated with PCI training, meaning that students were less likely to be off-task in classrooms where the teacher had been trained by PCI. The main finding is that the use of new teaching tools is associated with significantly lower rates of off-task students, providing evidence that PCI training has increased teacher capacity, and this increased capacity, in turn, is linked to higher levels of student engagement.

Improved Student Attendance

For the parent-reported health-related absences measure, there are no significant DID results. For the student attendance based on the teacher logbook, the results show a significant positive impact in PCI schools with 77.4% of students in treatment schools attending 80% of classes, compared to 60.8% in control schools. The parent survey found the most common reason for child absences due to illness was malaria (treatment: 64.5 %, control: 71.1%). Teachers highlighted that the most common reasons why children miss school are household chores (76.0%), malaria (44.0%), and distance to the

Figure 1: Student attendance indicator (students attending 80+% of classes)

school (36.0%). Menstruation was also found to affect girl's attendance, although this was only raised in FGDs. Grade 6 and 7 girls were asked to comment on how often they believe girls are absent because of menstruation, with 5% in treatment schools agreeing that girls were frequently absent for this reason in comparison to 22% in control schools.
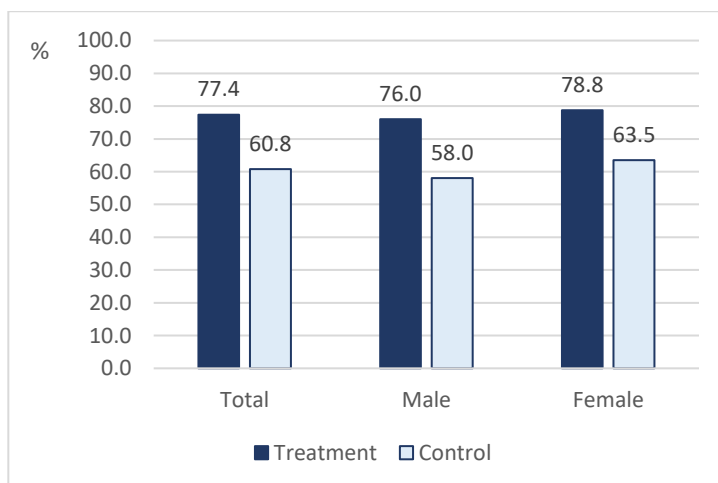
### Improved Knowledge of Health and Hygiene Practices

Regarding knowledge of personal hygiene, the most common hygiene practices were similar in treatment and control schools: taking a bath (84.8% vs 84.7%), wearing clean clothes (56.3% vs 58.3%), brushing one's teeth every day (31.9% vs 29.4%), and keeping the environment clean (24.6% vs 23.3%). Discussions with students indicate that they have been able to retain various learnings around health and hygiene, both at the personal level and regarding their natural environment, through information provided by teachers and through participation in clubs. At the same time, belonging to health or garden clubs was not associated with better knowledge about health practices.

For parents, the three most important health and hygiene practices noted were similar in treatment and control groups: the proper use of toilets (50.8% vs 52.3%), wearing clean clothes (43.0% vs 42.7%), and taking a bath (38.8% vs 39.7%). Almost half of surveyed treatment parents were not directly involved in program activities, and this may have affected some parents' ability to name three health and hygiene measures as well as three benefits of education. Qualitative discussions did however show that parents are in fact familiar with some key messages, particularly around COVID-19 prevention and handwashing as a more deliberate practice.

Increased Knowledge of Nutrition

Overall, 1,629 teachers and community members were trained in child health and nutrition. Findings were similar again between treatment and control groups: 44.9% of treatment school students (40.4% control) could name three things one should eat each day, including 83.4% of students (83.2% control) stating cereals, grains, and tubers, followed by 43.1% of students (39.7% control) stating that one should eat animal source foods.

Figure 2: Percentage of students in treatment schools using new knowledge of school garden techniques
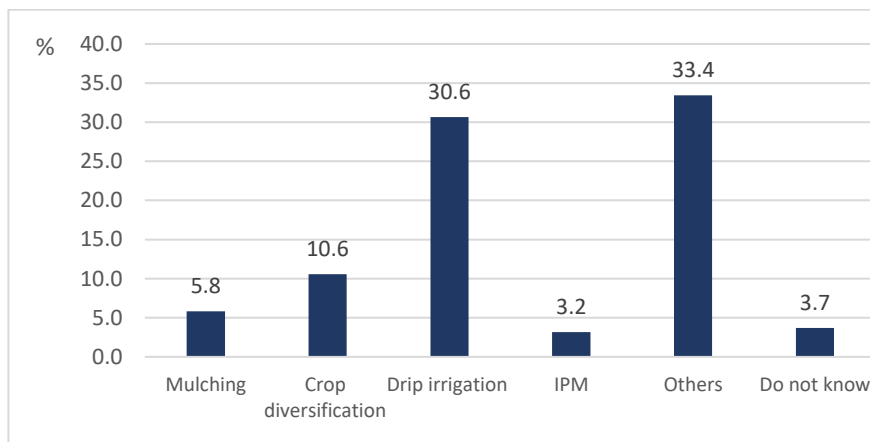
In treatment schools, 82.9% of students noted that they have used techniques that they learned working in the school gardens at home, including drip irrigation (30.6%), crop diversification (10.6%), mulching (5.8%), and techniques such as weeding, preparing the garden, developing terraces, correct planting, and generally undertaking quality gardening (Figure 2).

Increased Access to Clean Water and Sanitation Services

PCI supported the construction and improvement of school infrastructure linked to health and hygiene, including improved sanitation/latrines in 205 schools and access and use of an improved water source in 172 schools. Latrines in PCI targeted schools are significantly safer and in better working condition than control schools from the viewpoint of students, with 92.9% of students reporting that they feel latrines are safe to access and 93.7% noting that they are in good working condition, compared to 84.4% and 85.3%, respectively in control schools. The program provided and constructed modern school toilets, which were more likely to be in good condition, with access to clean water, and with doors in comparison to control schools. In treatment schools, 88% have separate toilet facilities for girls and boys compared to 90% in control schools.

Overall, there was a lack of major improvement based on the indicators for improved water and sanitation facilities. However, there are significant results achieved in terms of availability of School, Water, Sanitation and Hygiene (SWASH) facilities with 91.3% of treatment school students stating there was a

place to wash their hands at school compared to 62.9% of control students. In addition, 77.1% of students (47.1% control) note that there is always water to wash their hands, and 47.5% noting (22.6% control) that there is always soap to wash their hands at school. Few treatment schools (6.3%) reported that there is never water to wash their hands (compared to 28.1% of control school students), while 32.9% of students (58.8% control) said there is no soap for washing their hands. By end line, it is noted in the program's PMP that only 20% of installed water systems are adequately operated and maintained by school committees.

Sustainability

PCI's vision seeks to create an enabling environment that fosters increasing government support, community engagement and local ownership to improve educational outcomes.[3]. There are indications that these efforts will contribute to the program's sustainability based on the effect it has had to date in some areas while other areas still face some challenges. Overall, PCI has been successful in developing and maintaining collaborative relationships with education stakeholders at all education system levels. Across all stakeholders, PCI is regarded as a highly professional organization and has intentionally ensured cooperation throughout its implementation.

Notably, PCI's core sustaining feature is its technical involvement in informing the School Feeding Strategy, which was being launched at the time of writing this report (June/July 2021), for nation-wide implementation of school feeding programs. Considered as one of PCI's most important successes, the program has been able to take learning from the school level and use it to inform policy and generate interest and ownership.

All 100 study schools (50 treatment and 50 control) were assessed on their performance using PCI's School Sustainability Readiness Assessment based on four areas—teachers and headteachers, school committee functioning, village/parent support, and participation at the ward and division level. Findings show that the overall sustainability measure was 81.6%[4] at the end line—a significant increase of 17.2% percentage points since baseline (3.6% in control schools). This increase is consistent across the various areas of assessment and found that the teacher component had the biggest change -- being attributed to new practices in providing supplementary reading materials, documenting health issues, and actively reporting to school committees, Village Governance Committees (VGCs) and parent groups on issues and progress.

---

[3] Ibid.
[4] Standardized out of 100 to aid in comparison.

Figure 3: Percentage scores for the total and each of the four sections of PCI's Sustainability Readiness Assessment, disaggregated by treatment and control
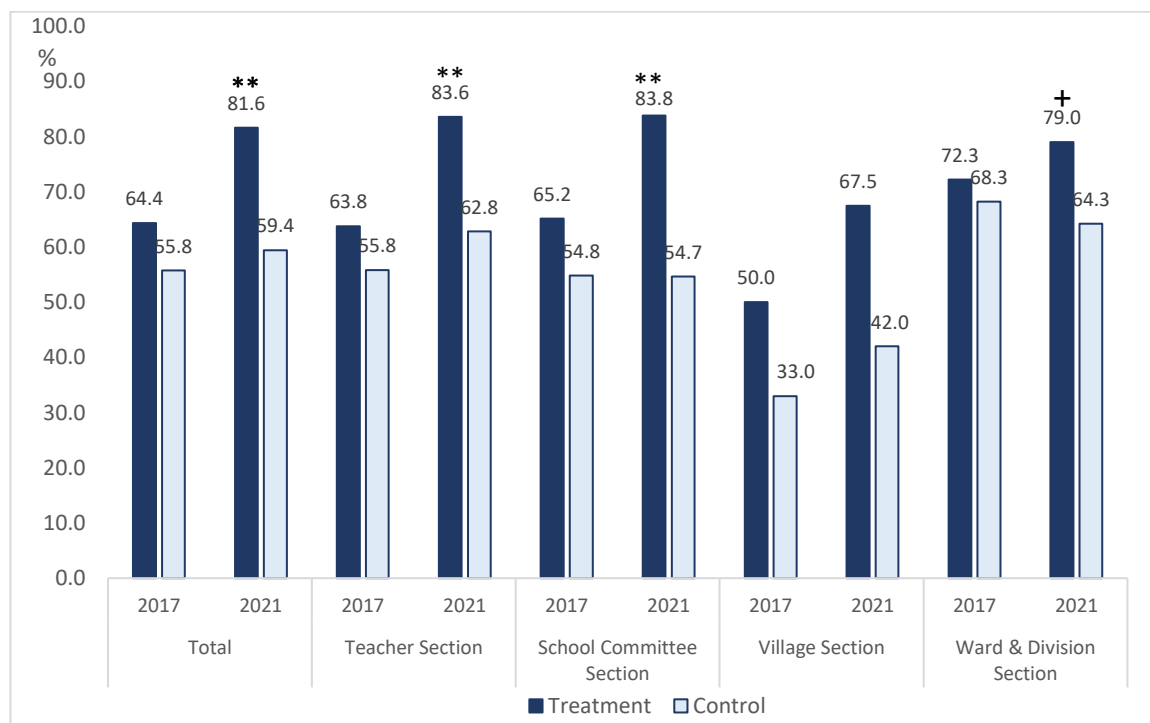
The PCI program has established and/or strengthened key school and community-level mechanisms to facilitate improved ownership and sustainability of its successes to date. These mechanisms have included the Sustainable Community Ownership Model (SCOM) which brings together influential community members such as the Village Executive Officer, Village Chairperson, headteacher, and parents into a team of school-level feeding champions at the division (sub-district) level. These champions are responsible for organizing and motivating parents and leading communities on community-based school feeding efforts. Coupled with this group, the existing Parent Teacher Association (PTA) structures at the school level and the Government-Parent-Teacher Associations (GPTAs) have brought together key school feeding actors in identifying challenges to receiving the required amounts of community contributions while planning for sustainable school feeding in their locality.

Gender Equality

There are no gender differentials between girls and boys regarding program activity reach. Some evidence exists for changes in decision-making of women at the household level, particularly for WE group members. In addition to accessing capital for income-generating activities and investments, participants also used loans to meet basic needs-- including purchasing school supplies for their children-- and covering shocks such as illness or deaths in the family. The end line survey, although based on a relatively small sample size, found that 74.3% of the respondents (72.0% of the total women) in treatment areas felt their ability to be involved in decisions in their household has increased since participating in the WE Group. Household decision-making for small household purchases was noted by 98.0% of women who mentioned making the decision on their own or jointly with their spouse or another family member, followed by 96.0% who made decisions alone or jointly on sending children to school, and 92.0% noting decision-making around the use of savings. This was also supported qualitatively by male group members. For

instance, one individual highlighted not only joint decision-making but more confidence in women managing savings and profits.

Recommendations Related to Program Components
1. Future program design can leverage PCI's technical expertise to work in the advocacy space and provide additional technical input in operationalization and training in other regions for the adoption of National Feeding Guidelines. While the program has ended, future designs could highlight this expertise and be integrated into other PCI endeavors.
2. While there are noted challenges in parental contribution and perceptions, this is partly due to the transition from a model of external food distribution from a large international NGO to a community-based model. Messaging the role of parents in school feeding programs with support from local governance structures, such as the PTA, would be an area that needs intensification to encourage adoption.
3. An equity-based model to ensure all students are accessing food will be important for future feeding programs. Contribution models for school feeding should be explored further in terms of understanding penalties that parents face or instances where parents are unable to contribute. Some children are not given food because their parent is unable to contribute and adapting to an equity-based model would overcome this concern.
4. While many schools have hired cooks to prepare food, difficulties retaining hired cooks have cause some inconsistency in the retention of cooks. A volunteer parental model, as utilized in some cases in other schools across Tanzania, could ensure continuity of food preparation and delivery. This could be a shared model between volunteers and paid cooks and integrated into the National Feeding Strategy operationalization.
5. To maintain buy-in for school feeding programs, ensure ongoing monitoring, and minimize penalty-based systems, regular engagement of local and district government stakeholders is required. To date, PCI has been successfully generated buy-in and ownership. However, systematic coaching and mentoring for the design and application of action plans related to school feeding and delivery of messages by local stakeholders should be considered in future for similar program designs. There is space for technical partners such as PCI to play this advocacy role.
6. Integration of child-centered and/or gender-sensitive approaches in curriculum design and training through partnerships with organizations already using this type of curriculum, coupled with updated classroom observation tools, would be beneficial for improving student learning environments. Topics of child rights and non-physical punishment are key areas to be explored.
7. Future programming with a greater concentration on menstrual health of girls and partnerships with organizations for more systematic provision of menstrual hygiene products (or exploration of locally produced products) may contribute to fewer absences. Additional sensitization with teachers, particularly male teachers, on menstruation concerns should be carried out.
8. Health and hygiene information dissemination has been very positive with the inclusion of messaging around items such as cleanliness, hand washing, comprehensive sexuality education, and HIV prevention. Future programming should continue with these topics. However, topics such as prevention of sexual and gender-based violence (SGBV) and other forms of exploitation should be integrated further and adapted to girls and boys separately.
9. The WE group model is self-sustaining. These groups can also serve as an entry point for additional sensitization and involvement in the wider school community in promoting parental contribution, mobilizing volunteer cooks, addressing cases of SGBV, and dissemination of health and hygiene messages.

Recommendations Related to Future Monitoring, Evaluation and Data Collection

1. It is recommended that a more utilization-focused approach to tool design is carried out to ensure that the quantity of data is limited to what is needed and not a broader scope. The amount of data that was generated through midline and end line studies is beyond what was used. The burden on respondents should be minimized where possible.

2. The method of observation that was used throughout the study periods is somewhat problematic, especially for larger class sizes, as is the measurement of decreased hunger leading to increased attentiveness. Future classroom observations on attentiveness could be improved, for example, by observing 10 randomly selected students during a class to determine whether they are attentive (observing each of these students at specific points in time or for approximately 3 minutes). Additionally, these students could be asked individually if they received a school meal and if they are hungry.

3. Regardless of other external factors, the indicator related to students attending 80% or more of classes should always be assessed based upon the government-regulated number of school days (including ensuring that teachers are recording attendance). The most important factor is counting whether students are attending classes – regardless of the reasons why or why not (although assessing these reasons could help understand the factors preventing children from attending school). This means that days when teachers are absent, and children do not attend school should still be included in this analysis.

4. It may be more acceptable to ask parents what their children ate the day before as there is concern whether young children accurately remember everything that they ate in the last 24 hours.

5. Averaging grade 2 and grade 4 for the final EGRA indicator is not appropriate. This also leads to higher fieldwork costs for assessing two school grades. Fieldwork should be planned to be undertaken at the end of grade 2.

6. Finally, a re-conceptualization/re-design of the school sustainability tool could facilitate a more holistic, in-depth understanding of the school and the factors which contribute to or hinder school sustainability. Such approaches and tools already exist in the education sector more broadly (e.g., PLAN International, Save the Children, Aga Khan Foundation, etc.) and could be adapted to the school and geographical context. Integration of gender-sensitive criteria as aforementioned should also be integrated to look at equity variables.