Project Evaluation Report

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Notes:

Some annexes listed in the contents page of this document have not been included because of challenges with capturing them as an A4 PDF document or because they are documents intended for programme purposes only. If you would like access to any of these annexes, please enquire about their availability by emailing uk_girls_education_challenge@pwc.com.

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GEC-T Midline Report Template

December 2018

As part of the GEC-T Midline evaluation, projects must submit a Midline Evaluation Report using this template for the report and annexes. As a **minimum requirement** for the Midline submission to be considered complete, projects must submit the following:

- **Midline Evaluation Report**
- **Annexes 1-17**

Educating Nigerian Girls in New Enterprises

By

For

May 2020

Final

Executive Summary

Background

The Educating Nigerian Girls in New Enterprises (ENGINE) II programme seeks to transform the future of marginalised Nigerian girls by fulfilling their potential in education and work. The programme which started in 2017 will run until September 2020 in FCT, Kano, Kaduna and Lagos States. The major outcomes are improving learning outcomes (literacy, numeracy and life skills), supporting girls to transition through key stages of education, training and employment, and ensuring sustainability of these outcomes.

The programme's theory of change is two-fold. First, the programme assumes that in-school girls (ISGs) will successfully transition to the next phase of education or complete their current education cycle and enter the workforce through enhanced learning experiences and an improved enabling environment. Second, the programme assumes that with the right support mechanisms in place, girls whose schooling has been interrupted (out-of-school girls (OSGs)) will have the opportunity to build their functional literacy and numeracy skills, while building assets and diversifying income sources. In doing so, girls will place themselves on a path to greater success and transition to employment and demand-driven entrepreneurship opportunities.

This midline evaluation tests the overall theory of change for the programme, and assesses whether inputs, outputs, and outcomes determined to operationalise the theory of change were relevant, effective, and would promote sustainability upon completion of the programme. Sub-questions were designed to ensure that the assessment addresses main questions raised at the programme (GEC-T) level as well as measure the progress made by the programme over time.

Evaluation approach

The impact evaluation adopts a theory-based mixed-method approach, employing a quantitative panel survey complemented by qualitative research to evaluate the programme across the four states of intervention. The quantitative impact evaluation employs a longitudinal, quasi-experimental approach to support the attribution of changes in intermediate and final outcomes to ENGINE II. The quantitative panel survey is made up of three rounds of survey over twenty months including a baseline (2018), midline (2019) and endline (2020).

Due to higher than expected rates of attrition, in particular for the ISG sample – in part related to some schools supported by ENGINE I not receiving support from ENGINE II – impact analysis for the ISG is conducted on the cross-sectional sample conducted at midline. This cross-sectional sample for ISG has been bolstered with a 'top-up' sample of new ISG interviewed for the first time at midline. For the OSG sample difference-in-difference methods are used to assess ENGINE II programme impact.

Learning outcome findings

We find that only the Logframe target for ISG numeracy has been met, defined by achieving at least a 0.25 standard deviation impact on each learning outcome. Despite this, the evaluation was able to identify a statistically significant impact that is attributable to ENGINE II in numeracy for both ISG and OSG, as well as in literacy for OSG which remains a significant achievement for the programme.

To further unpack progress made against learning for literacy and numeracy it is useful to consider the literacy and numeracy skills gaps of girls supported by ENGINE II across the different sub-tasks in the literacy and numeracy assessments. For ISG the midline round of evaluation finds that there is a significant reduction in the proportion of girls across all numeracy sub-tasks who either did not attempt each sub-task or whose performance was rated at a *non-learner* level. Despite this improvement, and despite the midline finding that ENGINE II has had a statistically significant and attributable impact on numeracy outcomes, numeracy outcomes remain low across all sub-tasks with more than half of all girls not achieving any points on the subtask. In terms of literacy, and in line with the evaluation finding no statistically significant impact on literacy for ISG we do not find any significant improvement in the level of learning for either of the sub-tasks implemented. Learning levels in literacy also remain low for ISG with more than half of ISG not achieving any points on the short essay sub-task, and 23% of ISG reporting the same against the comprehension sub-task.

For OSG there was significant improvement on the addition, subtraction, and word problems sub-tasks in numeracy where increasing proportions of girls performed at a *proficient learner* level. However, there still remain gaps in the learning of girls for these sub-tasks which are likely most relevant for their day to day tasks with large numbers of OSG still at *non-learner* or *emergent learner* levels of performance. The midline evaluation finds significant improvement in performance against almost all literacy sub-tasks with the exception of the non-word sub-task, with statistically significant reductions in the proportion of OSG who performed at a *non-learner* level. Despite this improvement, however, literacy learning outcomes remain low for OSG with significant proportions of OSG remaining at *non-learner* levels across a range of sub-tasks and most particularly for: letter sound identification (53%); comprehension (37%); non-word (33%); and oral reading (33%).

Beyond the literacy and numeracy learning outcomes, ENGINE II is also seeking to improve the life skills of both ISG and OSG, where life skills are defined as those that are necessary for full and active participation in everyday life. These include cognitive skills, personal skills and inter-personal skills. ENGINE II is seeking to have an impact on life skills through the implementation of a bespoke life skills curriculum designed by the programme. Life skills in this evaluation have been measured using a *life skills index* on a set of statements, each of which is measured using a Likert scale.

The midline round of evaluation finds that ENGINE II has not met its midline targets for improvements in the life skills index, which is defined as the proportion of girls who score at least 70% on the life skills index for which we do not find any statistically significant change between baseline and midline for either ISG or OSG. However, the rather blunt nature of this binary indicator hides improvements in the achievement of life skills and in particular for girls who had low levels of life skills at baseline, i.e. those who scored significantly lower than 70% on the life skill index at baseline.

As a result, this evaluation also sought to measure the impact of the ENGINE II programme on the full life skill index score itself, i.e. the score prior to conversion to a binary indicator. For each group, ISG and OSG, the midline evaluation finds a statistically significant and attributable impact of ENGINE II on life skills. This finding is certainly supported by the qualitative research which demonstrate the different channels in how life skills have improved for ISG and OSG. For ISG improved life skills have enabled them to better engage with their teachers and peers in class, to communicate more clearly and to make more informed decisions. For OSG improved life skills have improved their confidence to interact with their customers as well as be more assertive.

Transition outcome findings

Transition has been defined separately for ISGs and OSGs. For ISGs successful transition refers to in-school progression, i.e. successfully progressing from one academic grade to the next. Girls who remain in school but who remain in the same grade as they were at the baseline round of research and girls who have dropped out of school are considered to have transitioned unsuccessfully. For OSGs transition refers to those girls who continue to have an active business, those who return to an appropriate level of formal education, or those who engage in TVET.

This evaluation finds no evidence that ENGINE II has had a statistically significant impact on the proportion of ISGs that successfully transition from one academic grade to the next. However, this is likely in large part because of the already very high rates of successful transition observed at both baseline and midline with more than 90% of ISGs successfully transitioning.

Whilst an impact on the ISG transition rate could not be identified by the quantitative component of the evaluation, the qualitative research indicated that girls reported mentoring in combination with more intensive support, and in particular reduced class sizes, had enabled girls to better understand the content of lessons and in some cases had encouraged girls to remain in school when they might have otherwise dropped out.

At midline, the evaluation is not able to quantitatively assess the impact of ENGINE II on the transition status of OSGs due to changes in questionnaire phrasing aimed at delivering a more robust and appropriate measure of transition between midline and endline. However, the evaluation finds that the proportion of OSGs who are actively involved in business has decreased significantly in the intervention group between baseline and midline. This will reflect, in part, the harsh reality that many small businesses do not survive their first year of operation, particularly in the context of Nigeria which has witnessed recent poor economic growth. This finding is also likely linked to delays in the roll-out of programme activities. This includes the expected partnership with the MAFITA programme for which a MoU was signed only shortly before the midline round of research, as well as delays to the roll-out of the financial and business education manual which was only rolled-out in the quarter prior to the midline round of research.

In addition to programme delays, the midline round of research found evidence of the implementation of programmes with similar objectives to ENGINE II, which may have affected the ability of key partners to deliver on ENGINE II activities. There is also evidence that some of these other programmes have been implemented in control areas of the evaluation which is therefore likely to affect the ability of evaluation to detect impact on transition for OSGs.

Sustainability outcome findings

ENGINE II's approach to sustainability is centred around engagement with stakeholders at the community, school and system level.

Slowest progress against sustainability has been made at the school level, with sustainability remaining at a 'latent' level. Activities geared at addressing gender and child protection issues have seen the most progress with the majority of schools now having a Code of Conduct in place and being implemented. There was also considerable progress in implementing the training-of-trainers model in support of leaner centred-teaching, with both an initial training of teachers being implemented as well as refresher trainings being held in all implementation states delivered, crucially, by teachers identified to be 'master trainers' with support from Mercy Corps staff. However, the midline evaluation did not yet find evidence that this has generated a real shift amongst teachers towards learner-centred teaching approaches and away from teacher-centred teaching approaches.

Strong progress against sustainability has been made at the community level, with sustainability being rated as 'becoming established' at the midline round of evaluation. Qualitative research indicates that SBMCs have played a crucial role in sensitising and mobilising communities in support of girls' education and economic empowerment. This is reflected in significant buy-in from a range of community members including faith leaders, traditional leaders as well as parents themselves. These stakeholders have come up with context-specific mechanisms such as household visits, scholarship for ISGs, grants and donation of resources to OSGs in training or business, all in support of mitigating the barriers that marginalised girls are faced with in the community. In general, more communities are seen to be taking the lead in implementing programme-related activities and demonstrating full ownership of the initiatives.

Strong progress towards sustainability has also been made at the system level, which is rated as a 'becoming established' level at midline. Real commitment to and ownership of ENGINE II activities is evidenced by the level of engagement demonstrated by a range of system level stakeholders. This includes the adoption of ENGINE methodology by the NYSC community development service in all 4 states, the adoption of the ENGINE II Child and Vulnerable Adult Protection (CVAP) protocol as the standard for reporting an referrals in all states with the exception of FCT (where it is awaiting approval by the Department of Education), and the creation of the State Advisory Group which has contributed to the access of the programme at the highest levels of state government.

Overall, ENGINE II has made significant progress towards achieving the sustainability of programme activities beyond the span of the ENGINE II programme implementation.

Intermediate outcomes findings

Improved attendance

ENGINE II has a multi-pronged approach to improving the attendance of ISG at school and OSG at learning centres. These include building girls' motivation through mentors, peer support, and positive role models; addressing specific barriers to education including financial and community attitudes; improving school governance in the use of MIS; and reaching out to girls in danger of drop-out.

The results of the midline round of evaluation present a mixed picture of performance against Logframe attendance targets. At midline it was expected that at least 48% of girls would attend learning centres at least 75% of the expected time. This was met when considering the full sample of girls (ISG and OSG), though it should be noted that this was achieved for OSG but not for ISG. It was also expected that at least 60% of ISG would have good school attendance over the past month defined as attending 100% of the time. This Logframe target was missed marginally with just 57% of ISG meeting this standard. The evaluation also does not find evidence of any statistically significant impact of ENGINE II on attendance of ISG.

The midline evaluation results also highlight potential barriers faced by both ISG and OSG in attending schools or the learning centres. For ISG a relatively common reason for non-attendance was related to responsibilities to their households whether this was hawking, domestic chores or farming which caused girls to be late for morning school sessions. Requirements to participate in farming were also noted by OSG respondents in the qualitative research, where for some girls it appeared that household obligations to support during key periods such as harvesting took priority over their participation in the programme.

From a programming point of view, it is worth noting that some respondents in the qualitative research noted that the timing of learning centre sessions hindered their ability to attend. Learning centre sessions were described to be held after school hours, with some parents or caregivers not giving permission for girls to attend late sessions. In addition, it appeared that the timing of learning sessions conflicted with intensive coaching sessions for OSG who were preparing for entrance examinations to advanced or tertiary education, thereby reducing their engagement with the programme.

Improved teaching quality

ENGINE II through a training-of-trainers model seeks to improve the pedagogical practices of teachers, and specifically seeks to increase the proportion of teachers who are practicing learner-centred, as opposed to teacher-centred teaching approaches. In order to assess the quality of teaching, and in particular whether teachers are practicing learner-centred approaches this evaluation applies the Principles of Adult Learning Scale (PALS) to assess teachers against 7 factors including: learner-centred activities; personalising instruction; relating to experience; assessing student needs; climate building; participation in the learning process; and flexibility for personal development.

The midline round of evaluation finds that despite a marginal increase in the proportion of ISG who perceived that the teaching quality of their teachers had increased, neither of the two teaching quality Logframe targets had been met. In the first instance this relates to the proportion of teachers who are practicing learner-centred approaches as measured by the PALS index, where the evaluation finds that no teachers in schools or LCFs at learning centres were using a learner-centred approach to teaching. Despite this the midline evaluation does find evidence of some improvement against some of the domains in the PALS index. For teachers of ISG and LCFs at learning centres there has been some improvement in the *learner-centred activities* domain which provides some evidence of teachers and LCFs gearing instruction around the needs of students. However, scores against this domain remain low. There is also evidence of a marginal increase in the performance of teachers of ISG in the *relating to experience* domain, which relates to teachers relating instruction to the lived experience of their students. However, the evaluation finds no evidence of improvements in any other domains on the PALS index.

Despite this the midline evaluation provides evidence that ISG perceive an improvement in the quality of teaching that they are provided with. In particular this relates to the proportion of girls reporting that their teachers will use a different language if they are struggling to understand, as well as teachers suggesting ways to study after school.

During the qualitative research teachers highlighted a number of challenges that impacted on their ability to teach as they would intend. This includes a lack of materials and infrastructure ranging from textbooks to chairs. Teachers also often reported challenges in teaching to the curriculum, as they were often forced to use lessons to teach students foundational skills.

Increased access to economic opportunities

ENGINE II seeks to increase access to economic opportunities that can enable marginalised girls to create better futures, build assets, and become financially independent. ENGINE II has a range of activities specifically targeted at OSG including training sessions supported by a Financial and Business Education manual, linkages to savings groups and microfinance institutions and complementary life skills and job readiness training.

The midline evaluation finds mixed evidence on the performance of ENGINE II against this intermediate outcome. For those that have successfully maintained an active business at midline the qualitative research indicates that OSG point to the efficacy of training, in particular financial literacy, linkages to financial institutions and peer and mentoring support through the girls' fora as particularly supportive of this achievement.

At midline, 37% of girls who are active in business report that their income has increased as a result of business training. In part this is likely to reflect the harsh reality of the environment in which small businesses operate in Nigeria. Available literature suggests that small businesses in Nigeria face a range of barriers. Some of these are being directly addressed by ENGINE II including a lack of financial support, low financial literacy, and poor management practices. However, others are outside of the control of the programme including inadequate and low-quality infrastructure, corruption and recent low economic growth.

Increased life skills and menstrual hygiene management

ENGINE II has designed a life skills curriculum that seeks to support girls to acquire knowledge and skills in a variety of domains, two of which are measured by this evaluation. Firstly, ENGINE II supports girls to be more confident and articulate in making decisions that affect their lives. Secondly, girls are supported to acquire knowledge related to menstrual hygiene and management (MHM).

The midline evaluation provides mixed evidence on the performance of ENGINE II on the capacity of girls to make decisions related to their lives. Respondents to the qualitative research suggest that the programme has supported girls to become more confident and to be less afraid of voicing their opinions. This appears to be expressed through a variety of channels including negotiations with their parents about educational choices as well as being more confident to speak out in communal settings such as community or religious gatherings.

However, the evaluation finds that midline Logframe targets have not been met, as measured by an index measuring the decision-making capabilities of girls. This measures the ability of girls to take decisions for their lives in 8 domains. We find a statistically significant increase in the proportion of girls who can independently take decision in their life in just one of these domains related to *how you spend your money*, between baseline and midline. However, do not find that there is an increase in the proportion of girls that can independently take, or jointly take with family, decisions in any other domain. These include decisions related to girls' education, work decisions, decisions around the use of free time, or decisions related to age of marriage.

During the midline round of evaluation girls were also assessed on their MHM knowledge and attitudes. Whilst baseline data is not available to support an understanding of how these have progressed at midline, evidence generated by the midline evaluation shows that relatively few girls (12%) have good MHM knowledge, as measured by the percentage of girls who can name at least 3 key facts about menstruation. The extent to which girls display positive attitudes towards menstruation is moderate, with 39% of girls believing in one or no myths about menstruation. The evaluation finds that while the vast majority of girls believe that menstruation is a natural and normal process, many girls continue to believe that there are certain types of food that should be eaten during menstruation and that exercise during menstruation is bad.

Improved school governance

ENGINE II is seeking to enhance school management and school governance with the view to support the implementation of programme activities. It does this through targeted training of SBMC or CAC/CBMC members on gender and child protection issues, facilitating enrolment and attendance as well as resource mobilisation. This is complemented by efforts to support the sensitisation of key members of surrounding communities.

This evaluation finds that ENGINE II has not met its midline Logframe targets against this intermediate outcome, finding that a lower proportion of SBMC's than expected have taken actions to make the school an enabling environment for girls' education.

Despite not meeting midline targets the evaluation does find evidence that a considerable proportion of SBMCs have taken actions to create an enabling environment in schools, with over two-thirds of SBMCs reporting this to be the case. In addition, many SBMCs have reported that they have taken specific actions to improve attendance as well as in taking direct action in support of girls who have dropped-out to return to school, including discussions with parents or guardians and the provision of financial support. Furthermore, a high proportion of SBMCs (63%) report that they have developed and are enforcing codes of conduct to address child protection and gender-based issues in school.

For the other two Logframe indicators, baseline data was not available. The evaluation finds that 54% of SBMCs and 32% of CBMCs have good knowledge of barriers faced by marginalised girls, measured as the percentage of SBMCs/CBMCs who were able to name at least two barriers to girls' education and report at least two activities that the committee has taken to address these barriers.

The vast majority of girls (97%) demonstrate positive attitudes and knowledge towards gender issues. On the other hand, only 41% of girls have good knowledge of their rights.

Recommendations

Recommendations for learning outcomes

Whilst the evaluation finds that there has been a statistically significant impact on literacy outcomes for OSG and numeracy outcomes for both ISG and OSG we find that midline Logframe targets have been met for only numeracy for ISG. Furthermore, we find that the level of learning remains low, particularly for ISG against numeracy where the majority of girls performing below grade expectations. If possible teacher training that focusses on learner-centred training could be complemented with training in support of bridging the gaps in learning identified by this evaluation identified in sections 3.1.3 and 3.1.4.

Recommendations for teaching quality

Overall this evaluation does not find evidence that the ENGINE II programme has had an impact on teachers using learner-centred teaching approaches in the classroom. The programme could benefit from reflection on where teachers have performed poorly on the PALS index (i.e. scored below the mean). These include:

- **Learner-centred activities**: whilst the evaluation finds that performance in this domain has improved, the low scores are reflective of teacher-centred mode of teaching with a preference for formal testing over informal techniques and a heavy reliance on standardised tests, as well as using a teaching style that assumes learners will have a homogenous learning style.
- **Personalising instruction:** poor scores against this domain are indicative that teachers take a lecturing approach rather than incorporating a variety of activities to meet the distinctive needs of every student.
- **Flexibility for personal development**: low scores against this domain are indicative that teachers view themselves as being the providers of knowledge rather than facilitators for students to access knowledge.

Recommendations for attendance

Results from the qualitative research suggest that the timing of certain learning centre activities are either held at times (after school) that discourage the attendance of some girls due to concerns over safety or are held at times that conflict with other activities such as intensive courses in support of entering higher education. The programme should consider whether the timing of these activities is suitable for the needs of supported girls.

Recommendations for child protection

Whilst the adoption of the ENGINE II supported CVAP in the majority of intervention states is a significant achievement the qualitative research highlighted that frontline education officers and SBMC members remain largely unaware. The successful of the CVAP will depend on focussed efforts to sensitise key local level stakeholders in the purpose and implementation of the CVAP.

Acronyms

AME	Agency for Mass Education
ANCOPs	All Nigeria Confederation of Principals
BCC	Behaviour Change Communication
CAC	Community Action Committee
CBMC	Community-based Management Committee
CBT	Computer-based Test
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
ENGINE	Educating Nigerian Girls in New Enterprises
FCT	Federal Capital Territory
FGD	Focus group discussions
FLHE	Family Life and HIV Education
FM	Fund Manager
GCE	General Certificate Examinations
GEC	Girl Education Challenge
GEC-T	Girl Education Challenge Transition
HHS	House-Hold Surveys
JAMB	Joint Admissions Matriculation Board
JCCE	Joint Consultative Committee on Education
JSS	Junior Secondary School
KII	Key Informant Interviews
LGA	Local Government Area
MC	Mercy Corps
MDE	Minimum Detectable Effect
MIS	Management Information Systems
MoE	Ministry of Education
MoWA	Ministry of Women Affairs
MTs	Master Trainers
NECO	National Examinations Council
NCE	National Council on Education
NERDC	Nigerian Educational Research and Development Council
NIMC	National Identity Management Commission
NYSC	National Youth Service Corps
OPM	Oxford Policy Management

OSS	Outcome Spreadsheet
PPI	Poverty Probability Index
PPS	Probability Proportional to Size
PTA	Parent Teachers Association
RH	Reproductive Health
SBMC	School Based Management Committee
SEGMA	Secondary Grade Mathematics Assessment
SEGRA	Secondary Grade Reading Assessment
SSCE	Senior School Certificate Examinations
SSS	Senior Secondary School
SUBEB	State Universal Basic Education Board
UNICEF	United Nations Children's Fund
UTME	Unified Tertiary Matriculation Examination
WAEC	West Africa Examination Council

List of tables

List of figures

1 Background to programme

The Educating Nigerian Girls in New Enterprises (ENGINE) programme aims to transform the lives of marginalised in-school girls (ISGs) and out-of-school girls (OSGs) by fulfilling their potential in education and work. The first phase of the ENGINE programme, ENGINE I was implemented by Mercy Corps through Civil Society Organizations (CSOs) with funding from DFID and managed under the Girls Education Challenge (GEC) in Kano, Kaduna and Lagos states and in the Federal Capital Territory (FCT) from 2014 – 2017. The second phase of the programme, ENGINE II runs from 2018 – 2020, and is implemented in the same states as ENGINE I. ENGINE II in its transition (second) phase builds on the achievements of the first phase. This report provides information on the midline evaluation of ENGINE II.

ENGINE II is targeted at over 21,000 marginalised girls aged between 17 and 23 years. ENGINE II works with ISG and OSG in their schools and communities in select local government areas in Kano (Dala, Fagge, Kumbotso, Tarauni and Ungogo); Kaduna (Chikun, Jaba, Kaura, Makarfi, Sabon-Gari and Zaria); Lagos (Alimosho, Epe, Kosofe, Ojo and Shomolu) and the FCT (AMAC and Bwari). As at baseline, ISG were in JSS 3 – SSS 2 (equivalent to grade 9 – 11 on the outcome spreadsheet (OSS)) while all girls, including OSG were between the ages of 17[1] – 23 years.

ENGINE II aims to transform the lives of these marginalised girls by helping them to fulfil their potential in education and work. It aims to achieve this by improving their learning outcomes, supporting them to transition through key stages of education, learning and employment, and ensuring that the changes experienced are sustainable. Several barriers related to access and continuation of secondary education, transition to higher level education or the workforce, and personal and economic empowerment could deter the programme from achieving its set objectives and to address them, the programme will;

- **Enhance learning experiences and improve educational outcomes** through enriched educational environments, including higher quality teaching, access to childcare, and targeted literacy and numeracy support. OSG will have the opportunity to further their education through flexible learning with tailored modules and the progress of all girls will be digitally tracked at individual level.
- **Increase income-generation and asset building skills.** Girls will be connected with a broad range of income-generating opportunities through value chain integration or connections to key private sector partners. Asset building and business expansion will be encouraged through access to capital, cooperatives, bank accounts and government ID registration.
- **Enhance life skills training.** Girls will benefit from holistic support including life skills training, health education, literacy classes, financial literacy training, mentoring, and peer networks, with deeper content reflecting the girls' progression and increasingly complex lives.
- **Cultivate an enabling environment**. The project will improve gatekeepers' perception towards girls' education and empowerment and build on the key partnerships cultivated during ENGINE. This includes engaging SBMCs, ENGINE State Advisory Group (SAG), and other bodies/agencies to formulate and implement actions to promote girls' education; and advocating for government, religious and education systems to incorporate the project's activities and methodologies to sustain gains.

It is assumed that enhanced learning experiences combined with increased income-generation and asset building skills, enhanced life skills, improved gatekeeper perception and expanded policies and practices will provide a holistic stepping stone for girls, enabling them to prepare for and successfully transition to adulthood and into employment.

[1] During the baseline evaluation, younger girls (mostly aged 16) were included in the evaluation sample where the expected sample size could not be achieved due to insufficient number of the direct beneficiaries within the set age range in the surveyed clusters.

1.1 Project Theory of Change and beneficiaries

The programme design is based on the assumption that when marginalised ENGINE girls are provided with an ecosystem of support, they are able to successfully navigate key transitions. The programme's theory of change is two-fold. First, the programme assumes that ISGs will successfully transition to the next phase of education or complete their current education cycle and enter the workforce through better teaching quality and an improved enabling environment. Second, the programme assumes that with the right support mechanisms in place, girls whose schooling has been interrupted will have the opportunity to build their functional literacy and numeracy, while building their assets and diversifying income sources. In doing so, girls will place themselves on a path to greater success and transition to employment and demand-driven entrepreneurship opportunities.

ISG are expected to transition from junior classes to senior classes with improved literacy and numeracy skills, or to complete secondary education and proceed to tertiary education or into work (paid job/vocational skills/ entrepreneurship). OSG are expected to be linked to new businesses, expand their existing businesses, diversify their vocational training, or return to formal or adult education.

ENGINE II seeks to address the entrenched marginalisation of Nigerian girls that is reinforced by social, religious, economic, and educational barriers. These barriers affect access and continuation of secondary education, transition to higher-level education or the workforce, and personal and economic empowerment. Although the programme has put in place different activities to mitigate the effect of these barriers on the beneficiaries, external factors beyond the control of the project may affect the level of success achieved throughout the life of the project.

To achieve its set objectives, the programme is investing in a series of activities to develop functional literacy and numeracy content for ISG and OSG and organises trainings for teachers on learner-centred methodology, so they are better skilled to support girls' learning. The programme also aims to reinforce the national education curriculum and to provide career guidance and digital aids that could help girls thrive better in their ecosystem.

For OSG, ENGINE provides opportunities to increase financial literacy skills, access to formal and informal financial services, business skills training and engagement with business mentors and service providers to promote income-generating and asset-building skills. All girls are engaged in learning centres where they receive teachings on life skills including menstrual health and management (MHM), with the aim of building improved self-esteem and decision-making skills.

Having an enabling environment that can support girls as they transition through life is equally important. Therefore, the programme works with gatekeepers at the school, community and government levels to improve their perception of girls' education whilst mitigating barriers towards girls' education and empowerment. To promote sustainability, the programme also works with public and private sector institutions to develop or make contributions to policies and national programmes where gaps are identified so that marginalised girls can experience a more inclusive ecosystem of support that allows them to thrive optimally.

Below is a diagrammatic representation of the ENGINE II theory of change which has not changed since baseline.

Figure 1: ENGINE II ToC diagram

Several assumptions have been posited on the theory of change as seen above. These have been summarised into four main causal assumptions that are linked to the ToC and they are;

1. Training of teachers/learning centre facilitators (LCFs) on learner-centred teaching methodology as well as the provision of resource materials like the teacher handbook will improve teaching quality leading to improved attendance of girls in schools/learning centres and improved learning outcomes.
2. Participation in learning centre sessions helps girls to improve their life skills including menstrual health knowledge and management, literacy and numeracy skills, and financial literacy for OSG leading to better learning outcomes and successful transition.
3. Support to school-based management committees (SBMCs) and community action committees (CACs) leads to improved household support for girl-child education, improved enrolment and attendance rates and mitigates barriers to girls' learning and transition.
4. Engagement with stakeholders leads to the adoption of the Child and Vulnerable Adult Protocol (CVAP), resulting in improved child protection (reduced high chore burden, gender discrimination and child abuse issues), better learning outcomes and successful transition through key stages in life as well as sustainability of the ENGINE II programme.

It is important to bear in mind that while these causal assumptions show different pathways to impact, these pathways are interlinked, and it is the combination of all activities that is assumed to maximise the impact on learning and transition outcomes.

The ToC above also identifies a set of contextual barriers such as poverty, insecurity and lack of an enabling environment that are likely to prevent girls from achieving good learning and transition outcomes. The ENGINE II project needs to work within the context of these barriers and address at least some of these barriers in order to achieve impact. Some barriers are being directly addressed by the project (such as the lack of an enabling environment), while others might be seen as being largely beyond the control of the project to address (such as poverty) but nevertheless shape the context in which the project is implemented.

Some of the causal assumptions could have been achieved without ENGINE II programme or could be the result of concurrent and similar programmes occurring in the same intervention areas. To determine the impact of the ENGINE II programme therefore, the midline evaluation links observable changes to key activities carried out by ENGINE II.

1.1.1 Project outputs, IOs, and outcomes

The project outputs are directly related to the project activities described above and are listed in the ToC in Figure 1.

According to the ENGINE II ToC, there are three main outcomes- learning, transition, and sustainability and **five intermediate outcomes** – attendance, teaching quality, economic empowerment, life skills and school governance.

- **Outcome 1 - Learning:** This is a three-fold outcome that embeds in it - literacy, numeracy and life skills. For ISG, ENGINE II is focused on improving the English literacy and mathematics skills of ISG girls compared to baseline and ENGINE I achievements. For OSG, the primary focus is to ensure their continuous participation in learning centres where they are able to gain improved financial skills, benefit from income-generation and asset-building opportunities and be exposed to basic literacy and numeracy skills that can enhance their entrepreneurial skills. Building functional literacy, numeracy and financial literacy skills is the ultimate aim of Outcome 1.
- **Outcome 2 - Transition:** To the programme, this means closing the gap between secondary school enrolment and completion. ENGINE II will tailor its strategy for transition to each cohort's particular needs, cross-referencing their transition-related needs with the barriers the girls face due to their marginalisation. For OSGs, successful transition implies that they are enrolled on a vocational training or internship, experience business expansion and/or diversification, or have re-enrolled into formal education. For ISGs, successful transition means that girls in junior secondary school transition into senior secondary school and girls in senior secondary school complete school and either move to a tertiary level, acquire a skill to gain formal employment or start a business. Secondary schools have a policy of mass promotion, which means that students are automatically promoted to the next grade. This means that looking at grade promotion does not provide a meaningful measure of transition as it does not speak to whether students are actually meeting minimum academic levels. To provide additional insights on this indicator, at midline, we also collected information on students' English and mathematics scores at the end of the academic year before the midline survey. Progressing into higher education or employment after acquiring complete formal/informal education is the ultimate aim of Outcome 2.
- **Outcome 3 - Sustainability:** For ENGINE II, sustainability means investing significant resources in the policy environment by working with state and national assembly, civil society groups, religious and community leaders and creating an advocacy network through partnership with other DFID funded projects, NGOs and CBOs to facilitate an enabling environment for girls' education and businesses. School governance is supported to improve attendance monitoring and outreach; SBMCs are catalysed to alleviate some of the barriers facing marginalised girls in accessing schools e.g. childcare, and teaching quality is improved through refined learning content and teacher training and coaching. The evaluation assesses sustainability at three levels: *school, community and system level*.

There are five IOs: attendance, teaching quality, life skills, and community-based attitudes and behaviour change.

- **IO 1 - Attendance:** This IO assesses how regularly girls attend school or the learning centres. For instance, girls are motivated through mentors, peer support and positive role models. By addressing barriers to attendance such as securing the support of gatekeepers, girls' attendance at in schools and learning centres is assumed to improve.
- **IO 2 – Teaching quality:** This IO assesses to what extent teachers use learner-centred methodologies. The evaluation assesses to what degree the project has improved overall teaching quality, and the degree to which improved teaching links to better outcomes in the classroom, including encouraging girls to attend and remain in school and transition to the next level. This outcome is a major focus of the project as the ToC is largely predicated on the assumption that improved teaching quality and a more welcoming and supportive environment for girls directly leads to better learning outcomes (Outcome 1) and encourages girls to continue in school (Outcome 2).
- **IO 3 - Economic empowerment:** This IO is specific to OSG. Economic empowerment as defined by ENGINE II includes girls achieving business autonomy to control their finances, expanding or diversifying their businesses, gaining access to loans and other financial facilities, and obtaining electronic national ID cards as a result of the project. Successful economic empowerment means that girls have been able to save better, secure loans, and become better entrepreneurs after being trained by the programme.
- **IO 4 - Life skills:** This IO is focused primarily on those girls participating in the girls clubs/fora as part of the intervention. It assesses whether girls' participation in these fora has had an effect on their life and interpersonal skills including good knowledge and practice of menstrual health and hygiene management. Successful acquisition of life skills means, for example, that girls feel more confident and communicate effectively, can negotiate and resolve conflicts in a meaningful way, have correct knowledge about menstruation and can make informed decisions about their lives as a result of the intervention. This IO is linked to learning outcomes, Outcome 1.
- **IO 5 – School governance:** This IO focuses on gatekeepers having improved attitudes and perceptions towards girls' education and supporting girls in their communities to transition to higher levels of education or into the workforce as a result of the ENGINE II programme. It also includes that household members (parents and spouses), through sensitisation from the programme, are more willing to support girls through formal education or informal vocational training or business and employment. Stakeholder engagement and collaborative partnership is one of the pillars of the ENGINE project. This multi-sectorial collaboration produces the enabling environment required for ENGINE beneficiaries to thrive. By design, the programme considers households in the intervention areas as indirect beneficiaries and strategically engages with them. By identifying with key diverse indigenous groups[2] including primary caregivers at the community level and the deployment of communication and advocacy strategies, the programme is able to conduct trainings and sensitisation campaigns with them, so they are able to garner adequate support for girls' education and empowerment. This IO is linked to Outcomes 1, 2 and 3.

[2] This includes Community Leaders, Community Based Organisations, Faith Based Organisation, Social Groups and networks across its 209 intervention communities.

1.1.2 Programme activities

As described in the previous section, a multi-pronged approach is being used to target the direct and indirect beneficiaries, key stakeholders and partners across the different states of implementation. The intervention cuts across school, community and system levels. At midline, the ENGINE II programme team had successfully trained 121 master trainers, 95 guidance counsellors and 907 LCFs supporting the 699 learning centres spread across in-school and out-of-school clusters in the implementation states.

Master trainers include desk officers from the States Ministry of Education, volunteer teachers and university lectures who showed interest in supporting the programme, Guidance and Counsellor officials who are staff in the implementation schools, all trained as high-level trainers responsible for facilitating regular capacity building sessions with the LCFs, supporting them to deliver effective learning sessions with programme beneficiaries. Master trainers were trained by the ENGINE II project staff and state partners, with support from appropriate government institutions[3].

Effective programme monitoring has been challenged mainly by difficult terrains and prevailing insecurity issues in intervention areas. To mitigate this, the programme aims to engage state ministry of education desk officers, school principals and head teachers who are more present in the intervention areas to perform these tasks and report frequently on the status of ongoing activities and barriers faced.

To achieve the above results, the ENGINE programme team implemented the following activities between baseline and midline as described in Table 1 below. It is important to note that some of these were being carried out during or after the evaluation period and they might not have been captured from the evaluation sample.

Table 1: Key activities and implementation status

S/N	Programme area/target	Description of activity	Implementation status	Notable outputs on ENGINE II
1	Teacher development	Teachers and LCFs are trained on learner-centred methodologies, inclusiveness, gender sensitivity and child protection. ENGINE sources and develops visual teaching aids that support learning in the learning centres. ENGINE facilitates a 2-day refresher training once every 6 months to help LCFs deliver quality learning sessions, and monthly peer review meetings (Teacher Professional Development Days) to support networking and peer mentoring among LCFs.	LCFs, master trainers and project officers have undergone refresher training organised by ENGINE II staff. Resource materials (teacher handbooks) to aid teaching and learning have been developed and supplied across the intervention schools and learning centres. Monthly Teacher Professional Development Days in all the programme states are ongoing.	Since the master training of trainers' workshop in Q6 i.e. Jul. – Sept 2018 and the main training for teachers in Q7 i.e. Oct - Dec. 2018, 4 refresher trainings have been completed, one in each of the implementation states by Q8 i.e. Jan – Mar. 2019. The refresher trainings were delivered by the master trainers and ENGINE II staff. 75 super LCFs have been identified to provide cluster-level support to other LCFs in their jurisdiction.

[3] These include officials of the State Ministry of Education and the Agency for Mass Education in the respective states where the programme is being implemented.

S/N	Programme area/target	Description of activity	Implementation status	Notable outputs on ENGINE II
		As part of its communication and advocacy approach, ENGINE II leads the development of targeted learning and knowledge centred activities and/or messages to be used in ENGINE II learning centres and targeted communities. These approaches are also aimed at relevant boundary partners of ENGINE II especially in the policy and governance environment.		159 LCFs benefitted from the excellence awards to teachers who performed outstandingly with their learners and contributed to the achievement of programme objectives.
2	System-level engagement	ENGINE II trains state Ministry of Education officials to provide supervisory support to schools so they can achieve learning targets. ENGINE II works with state education officers and strengthens SBMCs to track attendance, drop out and retention rates of students, mostly ENGINE II girls. SMBCs receive support from the programme to formulate and implement action plans to remove barriers facing marginalised girls. In addition to the communication and advocacy approach described under 'Teacher Development' above, the programme will be facilitating quarterly implementation of a basket of knowledge and learning fairs at the state level aimed at making research and learning coming out of the ENGINE II project actionable. It will also develop strategic media partnerships in ENGINE II project states and nationally.	The programme signed an MoU with the DFID-funded MAFITA project to foster vocational training opportunities for direct beneficiaries. The programme also signed an MoU with private institutions in Kaduna state Government, and institutions (Lagos, Kano, Kaduna) have adopted the CVAP and appointed focal persons in their administration to manage that portfolio.	3 MoUs have been signed as at Q9 by the programme to support girls by linking them up to skill acquisition centres. 1 partnership workshop was held in FCT on loan facilities available to girls. 20 EMIS desk officers were trained in Kano and Lagos to ease monitoring as well as integrate state partners into the programme activities.
3	Girls club/for a and support to OSG	ENGINE II delivers Activate Learning Sessions to improve functional literacy and numeracy skills as well as financial and life skills.	Life skills manuals containing context-specific information have been developed and distributed throughout all implementation states for use by girls.	1288 girls supported with 3 months intensive coaching in preparation for the Unified Tertiary Matriculation Examination and the Senior Secondary Certificate Examinations held in 2019.

S/N	Programme area/target	Description of activity	Implementation status	Notable outputs on ENGINE II
		The programme facilitates educational summer camps bi-annually for ISG progressing from junior to senior secondary school and girls preparing for secondary school-leaving certificates to improve their work readiness skills as they transfer into formal employment or informal business. Girl ambassadors get trained on gender and child protection procedures and how to advocate for change. ENGINE II engages role champions known as SHEros to highlight the emergence of girl champions, motivating girls as they journey through and make informed decisions about their lives. Under the second-chance initiative of the programme, the team works with education agencies across the implementation states to support the re-enrollment of girls into formal education. ENGINE II conducts refresher trainings for savings groups formed since ENGINE I. Trainings are focused on the use of financial tools like passbook, notebook, pens, stamps etc. ENGINE II aims to upgrade functional savings group into cooperative associations and link them to microfinance institutions so they can access loans and business opportunities as registered and government-approved entities. The programme is continuing the registration of girls with the National Identity Management Commission (NIMC), an initiative that begun since ENGINE I.	Spill-over effect of the support to girls are also enjoyed by those who are part of the girls' fora but not enrolled on the programme. The ENGINE II programme team also collaborated with another project by Procter & Gamble in FCT to educate girls on peer mentoring and menstrual health hygiene management, so they are better equipped to make informed life choices. The girls have been provided with financial and business manuals to equip them with good knowledge and standard practices on how to run a profit-oriented business, make informed financial decisions and facilitate access to financial services. SHEros are identified as gender champions in communities to motivate girls and focus their aspirations on their dreams and potentials.	105 girls from 35 ENGINE II-supported cooperative associations were trained in Kano and 22 new cooperative associations also supported by the programme were registered in FCT. 365 girl leaders were identified and trained to support their peers on mentoring and peer learning, CVAP, gender, leadership and life skills. In Kano and Kaduna states, 467 girls have been screened and registered for the foundational skills training being managed by MAFITA 278 girls in Lagos state and 93 in the FCT have been linked to vocational training centres. 1,011 programme participants were registered with the National Identity Management Commission (NIMC) and 485 participants supported to open new bank accounts. 7,952 OSGs and 3,638 ISGs received SMS business tips aimed at reinforcing learning on business strategies and life skills

S/N	Programme area/target	Description of activity	Implementation status	Notable outputs on ENGINE II
		The programme links OSG to public and private sector employers to acquire vocational skills, intern or become an apprentice, particularly in gender-stereotyped occupations. Both ISG and OSG receive complementary life skills, health education, digital awareness, career counselling and job readiness training reinforced by peer networks and mentorships at learning centres.		
4	Household and community-level engagement	The programme provides strategic training for community networks made up of community leaders, CBOs, FBOs and social groups in 209 intervention communities so they are adequately equipped to develop action plans on how to follow up with girls and their households, so they are better placed to achieve improved learning outcomes.	Parents and caregivers are continually sensitised on the need and importance of supporting girl-child education using branded communication and an interpersonal approach. Girls that are out-of-school are being linked to artisans who can train them on vocational skills.	As at Q9, 21 community sensitisations had been held across the 4 states. 2 CBOs helped girls to re-enroll in schools or proceed to higher institutions in Lagos and Kano state. Community leaders engage with parents and spouses to support girl-child education.
5	Implementation team	Capacity building for implementing partners, who in turn train Learning Space Coordinators on Gender Analysis and Participatory communication. Use media tools during quarterly trainings. Organise content-co-creation workshops between media and CBOs quarterly during field visits. Organise fairs and film festivals to share information and success stories from the programme.	Refresher trainings for master trainers on life skills	22 ENGINE II state programme teams participated in a 2-day workshop in Q9

1.1.3 Target beneficiary groups and beneficiary numbers

The direct beneficiaries of ENGINE II are the marginalised girls aged between 17 and 23 years old (as at baseline), who were previously enrolled on the ENGINE programme during the first phase of GEC.

The indirect beneficiaries are the teachers and boys in the same school or community with target girls, the girls' parents/caregivers, community leaders, government officials and vocational skills mentors.

ENGINE II targets direct beneficiaries based on a set of marginalised criteria described below:

Box 1: ENGINE II marginalisation criteria for recruiting programme beneficiaries

- Girls married by or before 18
- Girls who are pregnant or had a child or children before age 18
- Girls who are divorced or widowed
- Girls who have a disability
- Girls who are orphans or come from a single headed household
- Girls who come from household with a sick parent or husband (sickness refers to incapacitation that prevents one from doing simple chores including taking care of self and earning a living)
- Girls who did not complete Junior Secondary School
- Girls identified by school heads as marginalised given their specific circumstance[4]

The table below highlights the age range and grades of direct beneficiaries at baseline and midline.

Table 2: Project beneficiaries' grades and ages

Beneficiary grades & ages		
	Baseline	Midline
Grade for ISG	JSS 3 – SS 2	SS 1 – SS 3
OSG	In or not in business and struggling with finance In training or apprenticeship Out of school	Expanded or diversified business Trained to access financial products and services Re-enrolled into formal/informal school
Age (applies to all ISG & OSG)	17 – 23 years old	18 – 24 years old

The current number of direct beneficiaries stands at 18,048 girls, comprising of 5,699 ISG and 12,349 OSG. See Annex 9 for further details on the distribution of programme beneficiaries.

1.2 Programme context

Socio-demographic context

[4] This is a subjective selection criterion solely based on the judgement of an individual whose bias might not be controlled for prior to enrolling the girl in the programme and this selection clause might vary across locations.

Nigeria as a country has a population size of about 200 million people (World Bank Data, 2019[5]). The recently concluded National Demographic Health survey indicates that half of this population is made up of young and productive people between 15 – 64 years old.[6] On average, households are made up of 4.7 persons, a ratio that is higher in rural areas (5.0 persons) compared to urban areas (4.3 persons). In these households, females are more likely to be uneducated than males and the proportion of uneducated females is higher in rural areas. Cultural, socio-economic and political norms are some of the barriers that put women at a disadvantage.

The National Education Data Surveys (NEDS) for 2010 and 2015 and other studies have shown pupil absenteeism to be a major issue, especially in rural areas. Out-of-school factors contributing to non-enrolment, absenteeism and/or dropout from schools include illness or hunger; the need to do paid/unpaid work (including caring for siblings and sick relatives); an inability to pay school costs and fees; lack of uniforms or other materials; distance to school; and parental attitudes. In-school factors contributing to non-enrolment, absenteeism and/or dropout from schools are related to quality and generally revolve around: poor infrastructure and facilities; lack of space or overcrowding; teacher absenteeism; pupil avoidance of harassment, bullying or corporal punishment; an inability to understand the medium of instruction; and the poor quality of teaching and learning taking place.

ENGINE II programme was designed to transform the lives of 18,000 marginalised girls disadvantaged by any of the factors described above by supporting them to fulfil their potentials in education and work life. The programme is mostly implemented in rural and often excluded areas in the intervention states, although places like Lagos and the FCT are more urbanised than Kano and Kaduna states.

Education policy context

According to the National Education Policy, basic education should be compulsory, free, universal and high quality. The Nigeria education system operates the 9-3-4 formal schooling system, where the first nine years form basic education i.e. primary education up to the junior secondary school level. Another three years is acquired in senior secondary level before four years in the tertiary institution. However, the reality is different, as it has been reported that Nigeria has the highest number of out-of-school youth in the world[7], majority of which are young girls and women[8]. To mitigate the effects of having fewer literates compared to the nation's population size, more resources have been deployed into informal education programmes, where technical and vocational skills can be acquired to promote employment and improve living standards. This, however, is often drawn back by several other factors such as political, religious and civil instability[9].

Educational outcome context

[5] https://www.worldbank.org/en/country/nigeria/overview
[6] National Population Commission - NPC and ICF. 2019. Nigeria Demographic and Health Survey 2018 - Final Report. Abuja, Nigeria: NPC and ICF. Available at http://dhsprogram.com/pubs/pdf/FR359/FR359.pdf.
[7] Abdullahi, Danjuma; Abdullah, John (June 2014). "The Political Will and Quality Basic Education in Nigeria" (PDF). Journal of Power, Politics, and Governance. American Research Institute for Policy Development. 2 (2): 75–100.
[8] Grace Nmadu , Solomon Avidime , Olugbenga Oguntunde , Vehcit Dashe, Binta Abdulkarim , Mairo Mandara (2010). Girl Child Education: Rising to the Challenge. African Journal of Reproductive Health Sept. 2010 (Special Issue); 14(3): 107
[9] Omolewa, Michael (2008). "Adult Literacy in Africa: The Push And Pull Factors". *International Review of Education / Internationale Zeitschrift für Erziehungswissenschaft / Revue Internationale de l'Education*. **54** (5/6): 697–711. doi:10.2307/40608042

Across the geopolitical zones, the North East and North West lag behind others in educational attainment, with more than 60 percent of females and about half of males having no formal education. In places like Kano and Kaduna as well as interior parts of the FCT, adolescent girls are faced with early marriage, teenage pregnancies, and drop out from schools more than their male peers. In the North East, only 5.9% of girls complete primary school. The North Eastern states have the lowest levels of secondary school completion by girls in Nigeria. By geopolitical zone, the North East has the lowest Net Attendance Ratio (NAR)[10] at the primary and secondary levels (44% and 29%, respectively). Attendance is higher among wealthy households than poorer households at both the primary and secondary levels. At age 16, attendance rates begin to decline with increasing age, and the decline is faster for females than males after age. The Federal Capital Territory, Kano, Kaduna states (three out of the four intervention states), fall within the northern part of Nigeria which has consecutively reported[11] very low educational uptake and high number of out-of-school population which eventually culminates into high illiteracy compared to other parts of the country.

Socio-cultural and economic context

Over the years, marginalised Nigerian girls have been faced with economic, social and educational barriers that hinder their education. Nigeria is a signatory to most international conventions on human rights, women's rights, and children's rights, as well as to agreements on international goals regarding education, health, and poverty eradication. However, religious and cultural bias still work against girls and women, especially in northern Nigeria. In Nigeria, religious and cultural bias work against female participation in politics; women who constitute about half of the population have been continuously side-lined in public life to the extent that they never held more than 15% of elective offices. ENGINE II design reflects this, engaging with male and female political leaders in pushing forward change.

The expansion of free schooling and subsequent rapid increase in enrolment has created significant challenges in ensuring good quality schooling and learning outcomes. Basic education is not entirely free; mandatory books and uniforms costing an average of $200.00[12] present a major barrier to girls' enrolment and completion in Northern States. Trained female teachers can empower girls to stay in school but female teachers may be lacking in the most marginalised communities where the need for them is greatest. A case study of Kano state educational policy shows that there is currently no return policy that allows / encourages pregnant girls and young mothers to return to the formal/structured school system. English is the official language of Nigeria. However, in rural areas the local language tends to be used as a language of instruction. An act of the Universal Basic Education Commission (UBEC) encourages use of mother tongue at the early primary school stage with transition to English.

The importance of girl education cannot be overemphasized. For every year of school completed, a girl's income has the potential to increase by 10%.[13] Further, girls who finish secondary school are up to six times less likely than those with little or no education to marry prematurely and by delaying marriage, a girl may reduce her risk of social isolation, HIV and domestic abuse, and premature child bearing.

[10] The net attendance ratio (NAR) is an indicator of participation in schooling among children of official school age (age 6-12 for primary school and age 13- 18 for secondary school), and the gross attendance ratio (GAR) indicates participation at each level of schooling among those of any age between 5 and 24 years. The GAR is nearly always higher than the NAR for the same level because the GAR includes participation by those who may be older or younger than the official age range for that level.
[11] NEDS, 2010 and 2015; NDHS, 2003, 2008, and 2015
[12] US Embassy (2016) Nigeria Education Profile accessed at: https://nigeria.usembassy.gov/nigeria_education_profile.html
[13]Despite Wide-Ranging Benefits, Girls' Education and Empowerment Overlooked in Developing Countries Kata Fustos, Population Reference Bureau (2010) accessed 30th August 2016 at http://www.prb.org/Publications/Articles/2010/girlseducation.aspx

The business clime has not been favourable especially to small business entrepreneurs and the high inflation rate continues to affect sales and business outcomes. This in turn has affected the program beneficiaries' young businesses, with some reporting lower than anticipated sales. However, mentors and peer influencers (girl ambassadors) are still supporting girls' businesses across communities to facilitate continuity and growth. Additionally, ENGINE is hinged on the fact that there has been a fundamental shift over the past two decades, in the sources of funding for economic development around the world. An arena once dominated by official governmental assistance is now a stage for many actors. Today, private resources account for 85% of the resource flow to the developing world, compared to just 30% in the 1970s. ENGINE II intends to leverage on the collective structures, systems, knowledge, skills/expertise, and resources of the public (government) and private sectors including civil society to increase income-generating opportunities for and enhance asset-building skills of programme girls.

Nigeria ranks 120 out of 135 in the 2011 Global Gender Gap Index. In the home, men usually make the decisions. There is strong demand for financial products and services, but many young women lack access to and knowledge of formal financial institutions.[14] There is a relationship between education, literacy and marriage; just 15% of girls never in a union are illiterate compared with 89% of girls married by age 15.[15] The relationship between marriage and illiteracy is stronger than that between motherhood and illiteracy. The majority of girls (64%) marry before age 18 and two thirds of married girls have no say in decisions made in their household. Nigeria has one of the highest adolescent birth rates in the world; only 1% of married or cohabiting girls use modern contraception.[16] As seen above, the type and degree of challenge a girl faces depends in part on which area of Nigeria she comes from. Without adoption of the Child Rights Act (CRA 2003), child protection legal systems remain weak. Marginalised girls are not aware of the importance of legal identity; to this end ENGINE II will partner with NIMC to support girls in obtaining and using government ID.

1.3 Key evaluation questions and role of the midline

The evaluation is hinged on the Organisation for Economic Cooperation and Development (OECD)–Development Assistance Committee (DAC) criteria i.e. impact, relevance, effectiveness, efficiency and sustainability). To assess programme efficiency, a value-for-money assessment is planned for the endline evaluation point. The research questions[17] have not changed since baseline and include;

1. What is the impact of the ENGINE II programme?
2. How relevant is the programme to the beneficiaries?
3. Has ENGINE II achieved its set objectives – improve learning, support transition and facilitate sustainability?
4. How efficient has the ENGINE II programme been in achieving its objectives?
5. Does ENGINE II programme have sustainable approaches.

The midline evaluation tests the overall theory of change for the programme, and documents changes, if any, that might have occurred between baseline and midline.

The evaluation questions will help to validate the answers to the causal assumptions outlined above (subsection 1.1), accumulating and assessing evidence on the degree and nature of changes to beneficiaries, their communities and schools. Using a mixed-method, gender-sensitive evaluation approach that accommodates person with disabilities or special needs, information elicited will be used to answer the research questions. The evaluation took into consideration the processes through which outputs and communication/uptake may have led to observed outcomes. It also accounted for other factors that might have enabled or constrained achievement of outcomes.

[14] Mercy Corps (2013) Adolescent Girls in Northern Nigeria: Financial Inclusion and Entrepreneurship Opportunities Profile
[15] Girl Effect (2016) State of the Girl Report, Nigeria, August 2016
[16] Ibid
[17] Please refer to the baseline evaluation report and Annex 3 of this report for detailed sub-questions.

1.3.1 Overview of the evaluation methodology

The impact evaluation adopts a mixed method approach, employing a quantitative panel survey and qualitative research to assess impact and evaluate the programme across the four states of intervention. The quantitative panel survey is made up of three rounds of survey over twenty months including a baseline (2018), midline (2019) and endline (2020). The qualitative component of this evaluation runs sequentially to the quantitative.

Quantitative impact evaluation: The quantitative impact evaluation uses a quasi-experimental approach with matching at the school level. The quantitative impact evaluation is designed to provide robust estimates of the impact that ENGINE II has achieved on the outcomes and intermediate outcomes. See Annex 3.4.1 for more details.

Qualitative impact evaluation: The purpose of the qualitative evaluation is to understand the contribution of the ENGINE II intervention to the programme outcomes by explaining some of the quantitative findings and identifying factors that stakeholders perceive to be influential, and to understand how the interventions may have contributed to the observed impact.

At midline, each evaluation method targeted different stakeholders based on the strengths of each method to maximise the breadth of the data and enable us to answer all key research questions. To enable us to triangulate findings from the different research methodologies and contextualise the findings from both methods, girls, teachers and the SBMC/CBMC members were targeted in the quantitative and qualitative research.

The quantitative impact evaluation tracks a longitudinal cohort of ISG and OSG. At baseline, girls in school were in grades 9, 10 and 11 which is equivalent to JSS3, SS1 and SS3 in the Nigerian secondary education grading system.

1.3.2 Changes to the Logframe indicators

At midline, some revisions were made to the outcome and intermediate outcome indicators of the Logframe to ensure that these indicators best reflect the programme design. Specifically, some indicators were changed from numbers to percentages, while targets for the midline and endline were revised based on the baseline findings. Where there was ambiguity in the targeted population or characteristics, this was clarified. Refer to annex 5 for more details on the Logframe.

1.3.3 Midline data collection

The quantitative fieldwork training lasted for 6 days including the field pilot exercise, combining a variety of methods including PowerPoint presentations, group sessions, mock interviews, role-play and in-class scenarios to ensure that the training was intensive and interactive. Field work commenced across the four survey states on Monday 17th June 2019 and lasted until 28th June 2019. Both in-school and out-of-school survey activities were carried out in Kano, Kaduna and FCT while in Lagos state, only out-of-school respondents were surveyed in the intervention and non-intervention areas.

The qualitative training lasted for 4 days with a field pilot exercise on the 3rd day. Facilitators provided enumerators with ample opportunities to practice the introduced survey instruments using role-plays and group exercises. The qualitative survey was initiated after the quantitative surveys had begun in each of the states. Field work for the qualitative survey in all states commenced with data collection on 1st of July 2019 and ended on the 6th of July 2019 except for Lagos state. Data collection in Lagos state started on the 2nd of July because they were given a day to settle after travel and ended on the 10th of July 2019. More days were spent in the state because of the challenges in fixing appointments with target respondents. Following fieldwork, the team developed a comprehensive report for each of the interviews which lasted up to two weeks, intermittently uploading the audio records and report to the survey management team in Abuja for analysis.

The overall surveys completed in the quantitative and qualitative studies are described in full in Annex 3.

1.3.3.1 Quantitative instruments

The following quantitative instruments were administered at midline.

Table 3. Midline quantitative data collection tools

Tools	Description	Respondent
School survey	To gather information on school infrastructure, population, teacher to pupil ratio, governance and management. Data generated would be triangulated SBMC data.	Head or deputy head teacher or their representative
Attendance and Transition questionnaire	Newly introduced at midline to document evidence-based information on the enrolment status of cohort girls, their attendance in schools/learning centres, and the transition outcome of girls at the school or household (if they no longer attend the sampled school). The transition component of this tool was administered telephonically to caregivers of cohort girls who could not be tracked at school to establish the girl's transition status.	Headteacher / Learning centre facilitator and caregivers of girls no longer enrolled at the sampled school.
Classroom observation and teacher survey	Designed to capture information about key foci of the programme: GESI-responsive and interactive pedagogy, use of formative assessment strategies, and use of numeracy and literacy pedagogy. The teacher questionnaire was adapted from the Principle of Adult Learning Scale instrument with a few contextual questions that were added to assess the teachers' understandings of the learner-centred teaching methodology as covered by ENGINE II. The classroom observation tool was modified at midline to provide some additional context into teacher practice and pedagogical skill while teaching.	One ENGINE II trained teacher that teaches either English or maths in any of SSS1 – SSS3 grades **OR** an LCF if it is a learning centre.
Learning assessments	Designed by education experts following the guidelines provided by the GEC, we have the Early Grade Reading Assessment (EGRA)/Early Grade Maths Assessment (EGMA) for out-of-school girls and the Secondary Grade Reading Assessment (SEGRA)/Secondary Grade Maths Assessment (SeGMA) tools for the in-school girls. They were designed and adapted to the national curriculum to assess their proficiency in literacy and numeracy skills appropriate to each cohort. The ISG tools were slightly modified at midline though, to reduce floor effects that was observed among this group at baseline.	Cohort girls (ISG/OSG)
Girl survey	To provide information on the learning and transition outcomes of girls as well as improved behavioural change on their life skills and menstrual health management. Information will also be gathered on child protection issues that concerns them.	Cohort girls

Tools	Description	Respondent
SBMC survey	To elicit information on school governance and management activities by the SBMC or the Community Action Committee at the community level, in order to make school an enabling environment especially for girls	Members of the SBMC/PTA at the school and the CBMC/CAC at community level.
Household survey	Designed to understand household characteristics, their perception and support towards girl-education, how well they support girls in decision making. Data is collected to be triangulated with the findings generated from the girl survey.	Parents and caregivers of girls

1.3.3.2 Qualitative instruments

Table 4 below summarises the key respondents for the qualitative data collection and purposes of each tool.

Table 4. Midline qualitative data collection tools, their purposes, and respondents

Tools	Description	Respondent
FGD with the SBMC or CBMC members	To understand how they perform their school/community governance functions to make school/work place an enabling environment especially for marginalised girls. Also, to know how ENGINE II has helped them to carry out these functions better.	SBMC/CBMC committee members
FGD with cohort girls	**ISG:** To understand in depth how learning and transition outcomes of girls as well as improved behavioural change on their life skills and menstrual health management has changed over time as a result of the intervention. Information will also be gathered on child protection issues that affects them.	Cohort girls in school and are enrolled on the programme
	OSG: In addition to the above (ISG), to know how their businesses or training has improved based on their participation in ENGINE II led initiatives; the challenges they face and other forms of support they have received since baseline.	Cohort girls that are out of school and enrolled on the programme
KIIs with school teacher/LCF	Designed to elicit information on the understanding of teachers on the learner-centred approach to teaching and how they support their learners to achieve improved learning outcomes	ENGINE II trained teachers/LCF
KIIs with gatekeepers at the community	Designed to gather information on the changes they observe in girls since the intervention began; the support they give to ensure girls can thrive successfully in their society. Triangulate with findings from quantitative data from household and SBMC/CBMC surveys.	Traditional / Religious / Key group leaders; caregivers / household heads

Tools	Description	Respondent
KIIs with Girls' Employer	Designed to corroborate the information gathered on opportunities available to girls' and their transition pathways through key stages of economic opportunities	Employers of girls on vocational education
KIIs with System level respondents	Designed to understand how they work with the programme to improve educational / economic outcomes for marginalised girls at the state/LGA levels; how far they have gone in the adoption process of the CVAP protocol and the replication of the ENGINE II model across non-intervention areas in the state.	Desk officers at the State Ministry of Education and other relevant agencies; NYSC officials working with the programme

1.3.3.3 Adaptation of the sampling framework

A few changes were made by the programme after the baseline evaluation which resulted in some of the schools that had been sampled as intervention schools no longer participating in the ENGINE II programme at midline. In all states, some schools and their contiguous communities had to be dropped from the evaluation sample at midline because the programme and their state partners no longer operated in them. For each cluster that was dropped after baseline, both the intervention and the matching control samples were affected. These changes led to a revised sampling approach which is further described in Annex 3.

Depending on the extent of the attrition resulting from the dropout of schools from the programme, different approaches were adopted. In the FCT, four new schools were selected in the intervention category as replacement for junior secondary schools that were no longer participating in the ENGINE II intervention. Three of the new schools were matched with existing control schools from baseline and the fourth was matched with a control school that was newly introduced at midline.

In Kano state, all intervention schools were retained at midline but one junior secondary school in one of the control LGAs was dropped at midline. For this, the next control school in the affected local government area was oversampled by recruiting top-up girls to cater for the ones that had been lost at midline.

In Kaduna state, 2 schools, one in each of the intervention and control LGAs were dropped because they had been wrongly matched at baseline. Both were intervention schools and therefore considered to be invalid for data analysis. Appropriate corrections were made to the baseline datasets before it was used at midline. One new control school was also matched with an existing intervention school from baseline.

Also, in the intervention group, 3 junior secondary schools were dropped and replaced with their senior secondary schools[18] as applicable. Similarly, two junior secondary schools in the control group were replaced with their senior secondary schools. One senior secondary school was newly introduced in the intervention group as a replacement for a junior secondary school which did not have a senior level like some others.

Refer to annex 15 for updated sampling framework.

Note that the table below accounts for attrition at *cluster level only* and not on the number of girls in each of these clusters and their transition outcome about one year after the baseline. Further details on attrition rates among cohort girls are described in the next section.

[18] These are senior secondary schools of the same junior secondary school where girls that were in JSS 3 girls at baseline are assumed to have transitioned into as at midline.

Table 5: Evaluation sampled schools/community and cluster-level attrition at midline

State	Baseline	Excluded after baseline	Midline cohort	Enlisted at Midline	Midline Total	Attrition
Intervention clusters						
FCT	13	8	5	4	9	61.5%
Kaduna	18	5	13	3	16	27.8%
Kano	15	0	15	0	15	0.0%
Lagos (OSG only)	12	0	12	0	12	0.0%
Total sample size	58	13	45	7	52	22.4%
Control clusters						
FCT	13	5	8	1	9	38.5%
Kaduna	18	3	15	2	17	16.7%
Kano	15	1	14	0	14	6.7%
Lagos (OSG only)	12	0	12	0	12	0.0%
Total sample size	58	9	49	3	52	15.5%

At midline, a total of 52 intervention and 52 control schools as well as their adjoining communities were surveyed. Upon arrival at each school, 13 beneficiaries were randomly sampled from the identified ENGINE girls in the intervention while at the control sites, equal number of girls with matching characteristics with those from the intervention schools were also randomly selected. Likewise, 10 girls were randomly selected in the intervention and control communities to participate in the study.

1.3.3.4 Sample size achieved at midline

During the midline evaluation survey, the attrition rate between baseline and midline was 46% among OSG and 60% among ISG. There were two main reasons for these high levels of attrition: firstly, as discussed in the previous section, a large number of girls were lost from the sample as a result of the project design. Secondly, large proportions of girls who were in SS2 at baseline were lost from the sample at midline because they had either already completed secondary school or were preparing for examinations at the time of the midline survey. Girls were also lost from the sample because they relocated out of the study area or married and were no longer available to participate in the survey when the teams visited. Attrition and fieldwork challenges are described further in Annex 3.

Table 6: Midline sample summary and attrition for ISG and OSG

	Treatment	Control	Total
Sample breakdown (In-School Girls)			
Girls lost (only present at baseline)	274 (59.6%)	269 (60.0%)	543 (59.8%)
Girls maintained (present at baseline and midline) (Midline panel)	186 (40.4%)	179 (40.0%)	365 (40.2%)
Total at baseline	460	448	908
Girl replacement and top-up at midline	335	350	685
Total at midline (midline cross-section)	521	529	1,050
Sample breakdown (Out-School Girls)			
Girls lost (only present at baseline)	198 (42.8%)	221 (48.4%)	419 (45.5%)
Girls maintained (present at baseline and midline) (Midline Panel)	265 (57.2%)	236 (51.6%)	501 (54.5%)
Total at baseline	463	457	920
Girl replacement and top-up at midline	256	284	540
Total at midline (midline	521	520	1,041

	Treatment	Control	Total
cross-section)			

1.3.3.5 Approach to the quantitative analysis

For the OSG, while the attrition rate was substantial, the sample remained sufficiently powered to conduct a panel DID analysis at midline. Two separate models were run for the DID analysis, unadjusted (one that does not include any control variables) and adjusted (another that controls for the girls' age and the state, and characteristics that were not balanced at baseline or midline: girls with disability, cognition and mobility impairment, orphaned, married, divorced, have a sick parent/guardian (over a year), and the roof of the property is crude (for more information see Annex 3, section 3.5.3.

For the ISG, the high attrition rates meant that the sample would not be sufficiently powered to detect an effect of the size that is expected. As a result, in consultation with the FM, it was decided that a cross-sectional approach to the analysis would be used. This means that the analysis is based on the full sample of girls that were interviewed at baseline and at midline. Once again, two separate models were run: adjusted (one that does not include any control variables) and adjusted (another that controls for the girls' age, grade and the state, and characteristics that were not balanced at baseline or midline: girls with disability, cognition and mobility impairment, orphaned, married, divorced, have a sick parent/guardian (over a year), and the roof of the property is crude (for more information see Annex 3, section 3.5.3.

There are some sections in the report (in the intermediate outcome chapters) were a pooled analysis is run that combines ISG and OSG. In these cases, the analysis is based on a panel sample as the sample size combining the two groups of girls is large enough to allow for this analysis.

2 Context, Educational Marginalisation and Intersection between Barriers and Characteristics

The ENGINE II programme works across 18 local government areas spread throughout Kano, Kaduna, Lagos states and the FCT. Marginalised girls that are often disadvantaged because of their location, their access to quality education, and their social and/or economic status are recruited as beneficiaries into the programme. While a few attributes are common to the direct beneficiaries of the programme, the context where they live and thrive could contribute a great deal to the impact of the programme. The analysis in the following sub-sections provides sample breakdowns by regions, grade, age, and disability, and subsequently provides a breakdown of girls' characteristics and barriers associated with educational marginalisation as well as how these have changed between baseline and midline.

In this section, we present both quantitative and qualitative findings on the key characteristics of the ISG and OSG that are part of the evaluation of the ENGINE II programme. Quantitative data are drawn from interviews conducted with ISG and OSG and with their caregivers at the household level.

Qualitative data was gathered from KIIs held with community leaders, school teachers and learning centre facilitators (LCFs), government officials in education-focused institutions, and officials of the National Youth Service Corps that work with the programme. FGDs were held with girls and SBMC/CAC members purposively selected in implementation states.

2.1 Girls' characteristics at midline

In this section, we describe the characteristics of the ISG and OSG, including the region they are in, their grade, their age and their disability status. For the cross-sectional sample of ISG, we show differences between baseline and midline in the distribution of girls across regions, ages and grades. Region is a static indicator that does not change over time, while grade and age progress linearly;[19] this means that any changes that we see in the composition of the baseline and midline samples for ISG by these indicators are a result of changes in the sample composition resulting from attrition and top-up to the sample at midline. For the OSG, because we are presenting results for a panel sample, we show only one breakdown for region and age, as the girl's region has not changed between baseline and midline, and age has increased linearly by one year for all girls in the sample.

Region

Compared to baseline, at midline a higher proportion of girls in the intervention group come from Kano state, while there are fewer girls from FCT. In the control group, there are a higher proportion of girls from Kaduna and from Kano at midline, while the proportion of girls from FCT has decreased compared to baseline. This is the result of the loss of a large number of clusters of schools in the FCT that could not be fully compensated through the addition of new clusters and the sampling of additional girls in the existing clusters.

Looking at the panel sample for OSG, the distribution of the sample across the states also shows that the largest attrition from the sample occurred in the FCT, with girls from the FCT making up only 11% of the panel intervention group. Compared to the intervention group, a higher proportion of girls in the control group come from the FCT, while a lower proportion come from Kano.

Table 7: Evaluation sample breakdown by region for ISG

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
FCT	130 (28.3%)	129 (28.8%)	124 (23.8%)	120 (22.7%)
Kaduna	180 (39.1%)	169 (37.7%)	201 (38.6%)	218 (41.2%)
Kano	150 (32.6%)	150 (33.5%)	196 (37.6%)	191 (36.1%)

[19] Although it is possible that girls repeat a grade, the findings in chapter 4 show that grade repetition rates in the sample are very low as a result of the automatic promotion policy used in Nigerian secondary schools.

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)

Note: Based on cross-sectional sample.

Table 8. Evaluation sample breakdown by region for OSG

	Intervention	Control
Out-of-school girls (panel sample)		
FCT	30 (11.3%)	46 (19.5%)
Kaduna	89 (33.6%)	70 (29.7%)
Kano	93 (35.1%)	67 (28.4%)
Lagos	53 (20.0%)	53 (22.5%)
Total sample size	265 (100.0%)	236 (100.0%)

Note: Based on panel sample.

Age

Table 9 and Note: Based on cross-sectional sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Table 10 show the breakdown of the evaluation sample by age, using the age of the girls at baseline for comparability. At midline, the sample is therefore one year older than the ages shown in the table.

Among the ISG, both at baseline and at midline, the majority of girls in the sample are 17 years or younger. However, the proportion of girls who are 17 years or younger is larger in the midline sample, while the proportion of girls aged 18 is smaller. This is because lower grades (SS1 and SS2) were prioritised for sampling replacement/top-up girls at midline.

The OSG are approximately two years older on average than the ISG. Girls in the control group are slightly younger on average than girls in the intervention group.

Table 9: Evaluation sample breakdown by age for ISG

Age at baseline	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Aged 17 or younger	274 (59.6%)	273 (60.9%)	408 (78.3%)	433 (81.8%)
Aged 18	150 (32.0%)	123 (27.5%)	90 (17.3%)	64 (12.1%)
Aged 19	27 (5.9%)	29 (6.5%)	18 (3.5%)	11 (2.1%)
Aged 20	8 (1.7%)	11 (2.5%)	2 (0.4%)	6 (1.1%)
Aged 21	2 (0.4%)	2 (0.5%)	0 (0.0%)	2 (0.4%)
Aged 22	1 (0.2%)	8 (1.8%)	3 (0.6%)	5 (1.0%)
Aged 23 or older	1 (0.2%)	2 (0.5%)	0 (0.0%)	8 (1.5%)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)
Mean age (SD)	17.53 (0.79)	17.61 (1.03)	17.28 (0.64)	17.35 (1.01)

Note: Based on cross-sectional sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Table 10: Evaluation sample breakdown by age for OSG

Age at baseline	Intervention	Control
Aged 17 or younger	28 (10.6%)	55 (23.3%)
Aged 18	51 (19.3%)	47 (19.9%)
Aged 19	57 (21.5%)	37 (15.7%)
Aged 20	57 (21.5%)	39 (16.5%)
Aged 21	28 (10.6%)	16 (6.8%)
Aged 22	23 (8.7%)	20 (8.5%)
Aged 23 or older	21 (7.9%)	22 (9.3%)
Total sample size	265 (100.0%)	236 (100.0%)
Mean age (SD)	19.60 (1.72)	19.26 (1.94)

Note: Based on panel sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Grade

The distribution of the sample by grade is only relevant for the ISG sample.

The replacement protocol at midline prioritised sampling girls from SS1 and SS2 as replacement or sample top ups. In addition, a substantial proportion of girls who were in SS2 at baseline were lost from the sample because they had already completed school or were sitting exams at the time of the midline survey. As a result, it is not surprising that a larger proportion of girls in the midline cross-sectional sample are in SS1 and SS2 compared to baseline.

At midline, a larger proportion of girls in the intervention group are in SS3, while in the control group, a larger proportion of girls are in SS1 compared to the other grades. It is therefore important that the analysis controls for the grade that the girl is in.

Table 11: Evaluation sample breakdown by grade for ISG

Baseline grade (ML = +1)	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
JSS 3 (SS1)	80 (17.4%)	129 (28.2%)	132 (25.3%)	291 (55.0%)
SS 1 (SS2)	112 (24.4%)	126 (28.6%)	258 (49.5%)	164 (31.0%)
SS 2 (SS3)	268 (58.2%)	193 (43.2%)	131 (25.1%)	74 (14.0%)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)

Note: Based on cross-sectional sample.

Disability status

In the quantitative survey, girls reported on whether they have a disability, defined as having difficulties in functioning in at least one of six core functional domains (see Box 2).

Box 2. Definition of disability

The disability classification used in this survey is based on a typology of 'functioning' provided by the Washington Group on Disability Statistics, using the World Health Organization's International Classification of Functioning, Disability, and Health as a conceptual framework (Washington Group, 2017). We asked about difficulties in functioning due to a health problem across six core functional domains: seeing, hearing, walking, cognition (remembering and concentrating), self-care (e.g. washing and getting dressed), and communication. Each question had four response categories, which were read after each question:

(1) no, no difficulty;

(2) yes, some difficulty;

(3) yes, a lot of difficulty; or

(4) cannot do it at all.

All interviewed students were administered the Washington Group disability questionnaire (short version). A pupil was considered to have a disability in a domain if they described their level of functioning in that domain as a (3) or (4) using the scale above.

Table 12 shows the proportion of girls in the sample that reported having a disability at baseline and midline based on the definition shown above.

In the ISG sample, the proportion of girls living with disability reduced from 5% at baseline to 2% at midline in the intervention group and from 9% at baseline to 3% at midline in the control group. If we limit the analysis to the panel sample only (not shown), the disability rate amongst panel ISG has fallen in the control group, with fewer girls reporting a functional difficulty with cognition at midline compared to baseline. In the intervention group, the disability rate of panel ISG has remained the same. This suggests that the differences observed in the cross-sectional ISG sample are driven by the fact that girls added to the sample at midline are less likely to report having a disability compared to those who were lost from the sample.

Amongst OSG, the proportion of girls living with a disability has remained similar between baseline and midline. While there are some small shifts, these are based on very small samples and the differences in the overall disability rate are not statistically significant.

Table 12: Evaluation sample breakdown by disability

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
ISG (cross-sectional sample)				
Girls with disability (% overall)	22 (4.8%)	39 (8.7%)	12 (2.3%)**	18 (3.4%)***
Vision impairment	3 (0.7%)	9 (2.0%)	4 (0.8%)	5 (1.0%)
Hearing impairment	2 (0.4%)	3 (0.7%)	4 (0.8%)	1 (0.2%)
Mobility impairment	2 (0.4%)	5 (1.1%)	2 (0.4%)	7 (1.3%)
Cognitive impairment	7 (1.5%)	5 (1.1%)	3 (0.6%)*	2 (0.4%)***
Self-care impairment	9 (2.0%)	20 (4.4%)	3 (0.6%)	4 (0.8%)
Communication impairment	1 (0.2%)	1 (0.2%)	0 (0.0%)	0 (0.0%)
OSG (panel sample)				
Girls with disability (% overall)	6 (2.3%)	3 (1.3%)	5 (1.9%)	8 (3.4%)
Vision impairment	3 (1.1%)	0 (0.0%)	0 (0.0%)*	1 (0.4%)
Hearing impairment	0 (0.0%)	0 (0.0%)	1 (0.4%)	0 (0.0%)
Mobility impairment	1 (0.4%)	0 (0.0%)	2 (0.8%)	6 (2.5%)**
Cognitive impairment	1 (0.4%)	1 (0.4%)	1 (0.4%)	0 (0.0%)
Self-care impairment	1 (0.4%)	2 (0.9%)	1 (0.4%)	1 (0.4%)
Communication impairment	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

2.2 Marginalisation characteristics

The evaluation process aims to assess girls that are educationally and/or economically marginalised; their experience and barriers to learning and transition. This section outlines the disaggregated results based on various characteristics[20] or subgroups, enabling the ENGINE II programme and wider GEC programme to understand the results and challenges for marginalised girls thereby deploying programme activities that are inclusive and take into account the barriers to learning and transition faced by various groups of girls.

Variations in proportion between the baseline and midline ISG sample can be due to a significant change for the girl or her household (such as household member no longer having an illness that they experienced at baseline) or as a result of changes to the sample between baseline and midline.

2.2.1 Girls' characteristics.

These are characteristics that are often complex and can change as a result of a major shift in a girl's life such as households moving in or out of poverty, orphan or marital status of girls, household headship or dependency characteristics, to mention a few. These contextual features are mostly what posits a girl as being marginalised or not and are presented for the different cohort (ISG/OSG) of girls.

[20] 'Characteristics' are defined as single social identities which may lead to educational marginalisation, e.g. Orphan, Mother under 16. 'Subgroups' are defined as a combination of characteristics that are commonly held together that may lead to educational marginalisation, e.g. poor girls from families with a female head of household.

At midline, the proportion of ISG that reported being an orphan was significantly lower at midline in the intervention and control groups compared to baseline. This reflects that girls added to the sample at midline are less likely to be orphans compared to those girls that were lost from the sample. At midline, a lower proportion of ISG also report living with a sick parent or guardian. This seems to be a result of two different factors: amongst panel ISG (i.e. those interviewed at baseline and midline), in the intervention group, the proportion who live with a sick parent has remained the same, while it has decreased significantly in the control group. This suggests that the health of the parents in the control group has improved over time, but not in the intervention group. Instead, new girls added to the intervention group at midline are less likely to be living with a sick parent compared to those who were lost from the sample.

At both baseline and midline, the proportion of ISG who are married or had a child is very low, and is slightly lower in the control group compared to the intervention group.

Amongst OSG, a slightly higher proportion of girls report being orphans compared to baseline, while a lower proportion of girls report living with a sick parent or guardian. Around a third of the sample is married, and the proportion of married girls has increased slightly but not significantly in the intervention and control groups compared to baseline. The proportion of girls who have had a child at or before they turned 18 has increased significantly in the intervention and control groups, suggesting that some of the younger girls in the sample have become mothers since baseline.

Table 13: Girls' characteristics at baseline and midline

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (cross-sectional sample)				
Orphan	34.6	19.6***	53.6	33.1***
Living with a sick parent/guardian	19.3	11.5***	20.5	15.6**
Married	1.1	1.0	2.5	2.3
Got married at or before age 18	1.3	1.0	2.5	3.2
Divorced	0.4	0.2	0.0	0.6*
Widowed	0.7	0.0*	0.4	0.4
Had a child at or before age 18	0.9	0.8	2.7	2.5
N	460	521	448	529
OSG (panel sample)				
Orphan	31.7	39.6*	33.5	39.4
Living with a sick parent/guardian	27.9	14.7***	28.0	17.8***
Married	34.3	38.9	28.4	32.2
Got married at or before age 18	32.1	38.1	30.9	39.4*
Divorced	1.5	2.3	6.4	4.7
Widowed	1.9	1.1	1.7	1.3
Had a child at or before age 18	28.7	37.4**	26.7	35.2**
N	265	265	236	236

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

2.2.2 Barriers to education

The project design focuses on addressing some barriers to learning and transition directly through targeted activities. These barriers include poor attendance, poor teaching quality, lack of life skills, and lack of school governance and community support for education; these barriers and the programme's effect on them are discussed in detail as IOs in Chapter 6. In this section, we focus instead on additional contextual barriers to learning and transition that contribute to the educational marginalisation of the girls targeted by ENGINE, such as poverty and safety.

Caregivers' educational status

At midline, a lower proportion of caregivers reported to have no formal education in both the intervention and control groups and amongst both ISG and OSG, based on a panel sample of interviewed households. It is unlikely that caregivers would have gained formal education over the last year. Instead, this appears to be driven by the fact that more siblings were interviewed as caregivers at midline, while at baseline, more parents were interviewed as caregivers. Siblings are more likely to have a formal education compared to parents. The reason for this difference might be as a result of parents being unavailable at the times of the interview. Amongst OSG, we also find that a higher proportion of caregivers interviewed at midline are the girl's husband or in-laws (15% at baseline compared to 20% at midline), perhaps as a result of some girls having gotten married between baseline and midline.

Table 14: Household characteristics at baseline and midline

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (panel sample)				
Primary caregiver has no education	34.9	18.5***	30.2	15.0***
N	186	184	238	173
OSG (panel sample)				
Primary caregiver has no education	26.0	10.5***	26.3	19.5*
N	265	256	236	231

Note: Based on data from household survey which was only collected for panel households. Sample sizes at baseline and at midline differ because not all households of panel girls could be tracked at midline. Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Household poverty

The baseline analysis suggested that poverty is one of the main drivers of marginalisation. At midline, the household poverty status has not changed on average since baseline among ISG or OSG.[21] Over a third of households of ISG and OSG are living in poverty (based on the $3.10 / day poverty rate), while over 10% of households are living in extreme poverty (based on the $1.90 / day poverty rate). Almost half the households do not own land.

Table 15: Household characteristics at baseline and midline

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (cross-sectional sample)				
Extreme poverty rate (based on poverty line of $1.90 / day)	12.7	11.3	13.4	13.2
Poverty rate (based on poverty line of $3.10/day)	37.6	35.3	38.6	37.9
Household does not own land for themselves	47.2	42.7	50.2	45.7
OSG (panel sample)				
Extreme poverty rate (based on poverty line of $1.90 / day)	12.4	12.8	14.6	14.4
Poverty rate (based on poverty line of $3.10/day)	38.2	38.5	41.8	41.7
Household does not own land for themselves	49.8	45.3	54.2	50.4

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Household perception and high chore burden

[21] At baseline and midline, poverty was measured through the Poverty Probability Index (PPI)

At midline, more than half of the caregivers of ISG in both intervention and control groups reported that the girl spends one hour or more on household chores on a normal school day. This proportion has remained similar to baseline in both intervention and control groups. A small proportion of caregivers (6.6% in the intervention group and 4.1% in the control group at midline) reported that the girl spends 4 hours or more on household chores on a normal school day, indicating a very high chore burden. This proportion also has not changed significantly since the baseline.[22]

Over 90% of caregivers agreed that it is worth investing in the education of their daughters even when funds are limited. Compare to baseline however, the proportion of caregivers who agreed with this statement decreased significantly in both the intervention and control groups. A possible explanation is that caregivers see less value in supporting the education of their daughters as they become older and increasingly able to earn money for the household.

Table 16: Involvement in household chores and support to education for ISG

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
High chore burden (spends 1+ hours a day on household chores)	56.3	54.1	59.8	60.9
Very high chore burden (spends 4+ hours a day on household chores)	3.8	6.6	6.4	4.1
Caregiver agrees investing in girls' education is worth it even when funds are limited	98.9	94.0**	98.3	91.9***

Note: Based on data from household survey which was only collected for panel households. Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Findings from the qualitative research highlight that girls' involvement in household chores includes tasks such as cooking and cleaning at home, taking care of siblings, dropping off one's own children at school (particularly for OSG), supporting farming activities and in some cases, working to earn money for themselves and their family. Teachers and girls discussed how these activities affected girls' attendance at school, and for OSG, their attendance at the learning centres.

"The pattern observed was that in the mornings, there were less girls in school because majority of them were maids and house helps and had house chores to do and also had to drop off the children of their bosses at school, some were said to hawk in the mornings to make ends meets, thus for the few that attended school in the mornings they were late. In the afternoon the attendance improved because the girls knew and appreciated the importance of education". **Teacher AMAC, FCT**

"As for farming there is nothing you can do than go to the farm, because every farming activity has a timeline and cannot be postponed, but you can always catch up at school anytime" **OSG, Jaba, Kaduna**

"Some of my students are farmers and during farming season, they will not leave their work or sales of their produce to come to school" **OSG Teacher, FCT, Abuja**

In the quantitative survey, on the other hand, the vast majority of caregivers of ISG (95% at midline) felt that girls' engagement in household chores did not affect their attendance at school.

The qualitative findings also demonstrate the link between poverty, girls' engagement in chores and work and caregivers' perceptions about education: As said by one of the ISG during an FGD, some parents care less about their children having a good quality education or regularly attending school because they are poor.

"Some parents cannot afford to send them to school, some students are the bread-winners in their family, some parents don't really care whether their children come to school regularly or not." **ISG Respondent, Kano**

[22] Due to a programming error in the questionnaire, information on involvement in household chores is not available for OSG.

"Girls have to sell bean cake and pap before coming to school and this shows the nonchalant attitude of parents towards their children's education." **ISG Teacher, Kaduna**

Parent and community perception related to girls' education are explored further in chapter 6.5 on school governance and management.

Distance travelled to school and safety on the way to school

In the intervention group, 38% of ISGs travel for at least 30 minutes to or from the school daily, a proportion that has increased significantly from 32% at baseline. The proportion of girls who travel at least 30 minutes to or from school daily has also increased significantly in the control group.

A relatively small proportion of ISG feel unsafe travelling to school, and this proportion has decreased compared to baseline.

Table 17: Long travel distance and safety (ISG)

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
Travel for 30 minutes or longer (one-way) to/from school	31.5	38.0**	34.7	41.6**
Doesn't feel safe travelling to/from school	8.5	5.2**	12.1	8.6*

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Safe travel to and from the workplace a challenge that OSG identified at baseline and midline in the qualitative research. In Kaduna state and Kano, girls reported feeling unsafe when they have to travel the route from school to their homes especially when they needed to stay back for extra classes.

Environmental factors

Difficult terrain and poor weather conditions continue to affect girls' enrolment and attendance in schools at midline just as it was noted at baseline. Qualitative findings revealed that girls often miss school when it rains on a school day. Employers of girls in vocational training also reported that some of the girls do not come to work when there is heavy rainfall and because they have to sometimes travel very long distances.

Inadequate infrastructural facilities and safety at school

At midline, many schools continue to have poor facilities. Approximately 30% of girls reported that there are not enough seats for all the students in the class, and a similar proportion reported that their school does not have access to drinking water. Toilet use in school remains poor and has deteriorated since baseline, as a higher proportion of ISGs at midline (intervention – 60%; control – 58%) reported that they do not use toilet facilities at school compared to baseline (intervention - 46%; control - 46%). In the qualitative research, some girls reported that they were not able to use these facilities mostly because they are not available, or they are in a dilapidated condition and risky to access.

Amongst girls who do use the toilets at school, a substantial proportion of girls (intervention – 39%, control – 29%) reported that they do not feel safe when using the toilets.

Table 18: School facilities (ISG)

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
Not enough seats for all students	32.0	32.2	35.1	35.8
Difficult to move around school	11.3	11.7	13.0	10.2
School does not have drinking water facilities	29.8	29.2	29.7	32.7
Girl does not use the toilet at school	45.9	60.0***	45.5	58.0***
Girl does not feel safe using the toilet at school *(of girls who use the toilet)*	39.2	39.4	43.0	29.4***
Girl does not feel safe at school	3.3	2.3	6.7	4.0*

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

In the qualitative research, respondents also highlighted the poor state of facilities of some of the learning centres. In Kaduna state, a teacher explained that the toilets in the school where the learning centre lessons take place are not opened for the girls to use during their lessons because the primary school is already closed for the day before the ENGINE II lessons commence, thus forcing the girls to use the nearby bushes. Another teacher explained:

"We use the government secondary school and it is not conducive because the place is open to everybody. Boys play football here, smoke and have cult meetings here. So, most times, we don't stay late to avoid issues of harassment like rape, though the boys don't disturb the girls, but we have to be careful in order to avoid any issues" **OSG Teacher, FCT**

The proportion of girls who feel unsafe while they are at school is small. However, the qualitative research revealed that bullying is an issue that worries students in some schools and one that they feel is not sufficiently addressed by teachers and school staff. Many girls had experienced bullying or had seen it first-hand, mainly at school and from their peers. However, there was recognition from girls that being able to speak out when being bullied and reporting such incidences to the school authority over time has brought about a decline of bullying.

2.3 Intersection between girls' characteristics and barriers

Table 19 shows the intersection between girls' characteristics and some of the barriers to education that they face, which have been discussed in this chapter. It is likely that girls' characteristics and their exposure to some of the barriers discussed in this chapter also affects whether they experience other barriers to education that are directly targeted by the programme (i.e. poor attendance, poor teaching quality, lack of life skills, lack of economic empowerment and poor school governance and parental perceptions towards education). The intersection between girls' characteristics and these barriers are discussed further in the respective IO chapters.

It should be noted that the sample sizes for some of the intersections presented in Table 19 are small and the results should therefore be interpreted with some caution.[23] Compared to the full sample of ISG, girls whose primary caregiver has no formal education and girls who are orphans do not experience higher levels of educational barriers.

Girls from households that are extremely poor are less likely to have a high chore burden compared to the full sample of ISG. This is surprising given the qualitative findings presented above that show that girls support farming activities or hawk because the family is (financially) reliant on this support. On the other hand, caregivers in extremely poor households are less likely to agree that it is worth investing in girls' education even when funds are limited. This is in line with the findings from the qualitative research that also showed that teachers and ISG perceived poverty to be associated with less positive attitudes about the value of education. Girls from extremely poor households are also less likely to feel safe travelling to school.

Girls who have a disability are more likely to report a high chore burden and are less likely to feel safe travelling to school. They appear to attend schools with poorer facilities, being more likely than the full sample of ISG to attend a school that has no drinking water and more likely to not use the toilet at school.

Table 19: Barriers to education by characteristic (ISG at midline)

Barriers	Characteristics				
	All girls (%)	Primary caregiver has no education* (%)	Household is extremely poor (%)	Orphan (%)	Has a disability (%)
High chore burden*	54.1	49.1	41.3	50.9	81.8
Caregiver agrees investing in girls' education is worth it even when funds are limited*	94.1	90.0	85.1	93.1	90.9
Long travel to school	38.0	25.0	34.4	35.9	37.9

[23] The analysis was conducted by combining the intervention and control ISG sample at midline because the sample size for the respective subgroups in the intervention group only was too small in some cases.

Feels unsafe travelling to school	5.2	5.0	9.2	7.0	10.0
School does not have drinking water	29.2	28.3	26.7	30.9	53.3
Does not use toilet at school	60.0	63.3	60.0	57.8	70.0

Note: Indicators marked with * are collected from the household survey and are only available for panel girls.

2.4 Conclusion

This chapter has reviewed the major drivers of marginalisation and barriers to education. These drivers are interlinked, and often interact in a way that exacerbates their effect, thereby increasing the impact on marginalised girls.

The findings show that the key marginalisation characteristics and barriers identified in the baseline report continue to be important barriers to education at midline. Poverty remains the most important driver of marginalisation overall, affecting children's ability to travel to school safely, arrive at school on time, and perform well. When households are poor, it also means that their resources to send their children to school are more constrained and the time or income that a child can contribute to the household's income becomes more valuable, particularly as the child becomes older. The findings in this chapter suggest that parents in poorer households value education less highly than caregivers in households that do not live in extreme poverty.

Attending school and performing well is also made more challenging by long distances that many girls have to cover to get to school and by school facilities that are lacking or in poor condition. Many girls do not have access to drinking water at school, and 60% of girls do not use the toilet while at school – lacking access to these basic provisions is likely to be an important barrier to education.

Lastly, the findings have highlighted that girls with disabilities may face more barriers to education than other girls. It is important for ENGINE II to consider how girls with disabilities can participate in all programme activities equally, and benefit from opportunities despite the additional barriers that they face.

Poverty is a structural factor that cannot be comprehensively addressed by an intervention like ENGINE II in isolation. Both the poverty at the household level as well as the lack of adequate school infrastructure is therefore likely to present a continuing risk to the likelihood of ENGINE II achieving impact. While the programme cannot address these barriers in isolation, it is important to target particular factors where they may prevent girls from participating in programme activities.

3 Key Outcome Findings – Learning Outcomes

The main outcome of the ENGINE II programme is improving the basic literacy and numeracy outcomes of marginalised girls, as well as their life skills, to enable them to thrive in their environment and transition through key stages of education and life.

In this section, we present findings from the quantitative and qualitative research on girls' learning outcomes in literacy, numeracy and life skills. The first section describes the learning assessments that were administered to the learning cohort girls. Next, we present findings on the impact that ENGINE II has had on literacy and numeracy outcomes at midline and compare these to the targets that were set at baseline. We then look in more detail at how girls' performance is changing on the specific literacy and numeracy skill areas. In the following section, we look at how changes in literacy and numeracy outcomes differ by the girls' characteristics and barriers to learning.

In the second part of the chapter, we present findings related to life skills and the impact that ENGINE II has had on girls' life skills at midline, using an overall life skills index. The discussion on life skills is expanded further in section 6.4.

3.1 Literacy and numeracy outcomes

3.1.1 Measurement of literacy and numeracy outcomes

Literacy and numeracy outcomes are assessed through learning assessments that were developed in line with the guidance provided by the FM. All ISG and OSG were assessed on English literacy and numeracy.

Literacy and numeracy assessments for ISG

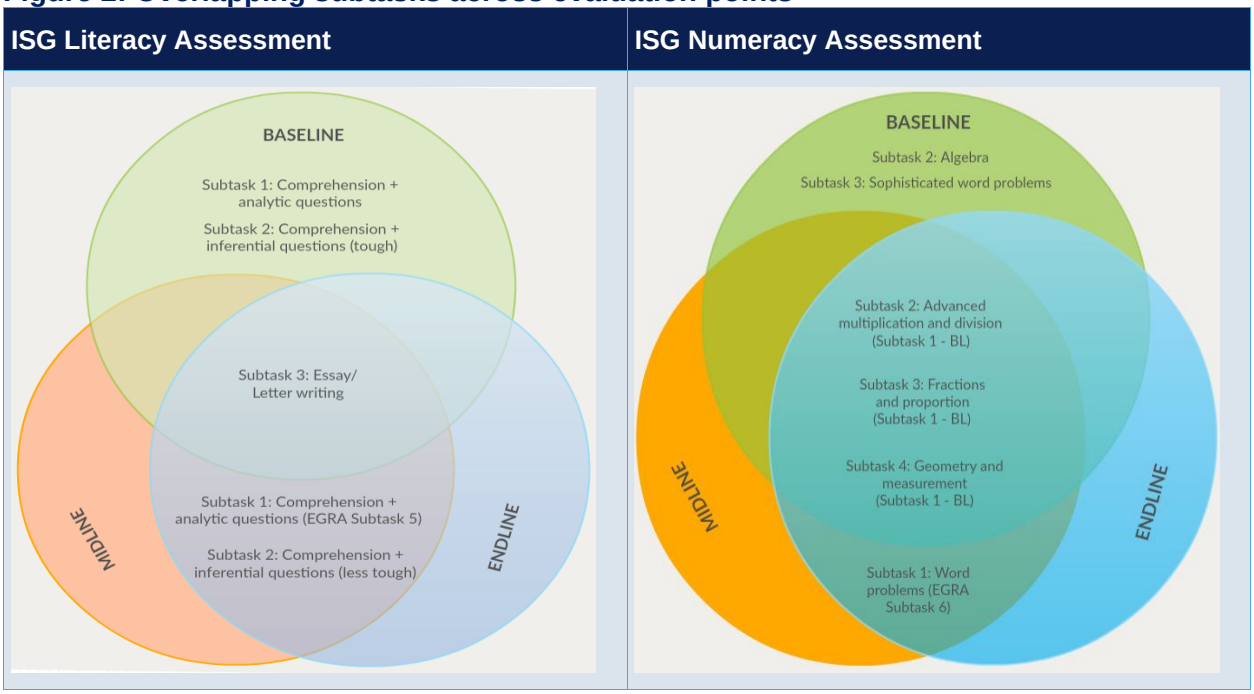
ISG were assessed on literacy and numeracy using the Secondary Early Grade Reading Assessment (SeGRA) and Secondary Early Grade Numeracy Assessment (SeGMA). There were some modifications to the learning assessments for the ISG as a result of the floor effects that were observed in the baseline learning assessment results. Based on these findings, recommendations for programmatic actions were made in the baseline report, then as a proactive measure towards addressing the skills gaps, the evaluation team in consultation with the FM and the programme implementation team agreed to revise the learning assessments to better address the girls' needs and the programme objectives. Modifications to the tests were informed by the skills gaps identified on the different subtasks.

Analysis of the SeGRA subtasks showed that the baseline SeGRA subtask 2 (comprehension with inferential questions) was the most difficult subtask, with over two-thirds of girls scoring 0% on the task and a further 10% of girls not attempting the task at all. As a result, this subtask was dropped from the midline assessment, and was replaced with a written version of the EGRA comprehension task. In addition, the level of demand of the inferential items in SeGRA subtask 1 (comprehension with analytical questions) was reduced for the midline assessment. The third SeGRA subtask (short essay) was retained.

For SEGMA, subtask 2 (algebra) and subtask 3 (sophisticated word problems) from baseline were dropped, and instead the EGRA word problem subtask was introduced at midline as an easier subtask. Subtask 1 from baseline was divided into three separate subtasks for the midline assessment: subtask 1 (advanced multiplication and division), subtask 1b (fractions and proportions) and subtask 1c (geometry and measurement).

While the modifications to the SeGRA and SeGMA assessments were necessary given the baseline scores, this poses a challenge for comparability of the learning assessments between baseline and midline. Only the subset of subtasks that were administered at both baseline and midline were used for the baseline to midline comparison. Figure 2 shows how the subtasks overlap across the evaluation points.

Figure 2: Overlapping subtasks across evaluation points



For SeGRA, the following subtasks were administered at both baseline and midline:

- Subtask 1 from baseline (comprehension with analytical questions) is comparable with Subtask 2 from midline (comprehension with analytical questions – less tough)
- Subtask 3 - Short essay / letter writing

For SeGMA, the following subtasks were administered at both baseline and midline:

- Subtask 1a - Advanced multiplication and division (ML Subtask 2);
- Subtask 1b - Fractions and proportion (ML Subtask 3);
- Subtask 1c - Geometry and measurement (ML Subtask 4).

Using these overlapping subtasks, an overall aggregate literacy/numeracy score was created from the average of the subtask scores, with all subtasks being equally weighted.[24] Aggregate scores range from 0 to 100 and can be interpreted as the overall percentage of questions that the pupil has answered correctly. Throughout this chapter, we report scores for ISG based on the overlapping subtasks.

Literacy and numeracy assessments for OSG

At midline, OSG were assessed using the Early Grade Reading Assessment (EGRA) for English literacy and the Early Grade Mathematics Assessment (EGMA). The same subtasks that were administered at baseline were administered at midline. The midline version of the test was different to the baseline version to avoid any bias of girls remembering the tasks from the baseline assessment. The baseline and midline version of the test were pilot tested to ensure that they are of equal difficulty.

Table 20 describes the five subtasks of the literacy assessment. For each task, the table includes the skill area assessed, a description of the subtask, and how the subtask was scored. Subtasks that assess reading were scored by creating a words-per-minute (WPM) score of the number of letters or words that

[24] Note that at baseline the three subtasks shown above were considered to be one subtask, while at midline, they are considered to be three separate subtasks.

the pupil reads correctly per minute. Other subtasks were scored as the percentage of questions answered correctly. Using these subtasks, an overall aggregate literacy score was created from the average of the five subtask scores, with all subtasks being equally weighted. Aggregate scores range from 0 to 100 and can be interpreted as the overall percentage of questions that the pupil has answered correctly.

Table 20. English literacy subtask

Number	Skill area	Description of task	Scoring
English literacy			
EGRA Subtask 1	Letter sound/name identification	Students were shown 100 upper case and lower-case letters and were instructed to sound out/name as many as they could in one minute	Correct letter sounds/names per minute
EGRA Subtask 2	Familiar word reading	Students were shown 50 common, familiar words and were instructed to read as many as they could in one minute	Correct WPM
EGRA Subtask 3	Invented word reading	Students were shown 50 one- and two-syllable invented words and were instructed to read as many as they could in one minute	Correct WPM
EGRA Subtask 4	Oral reading fluency	Students were instructed to read a short passage (approx. 240 words) with a time limit of four minutes	Correct WPM
EGRA Subtask 5	Comprehension	Students were orally asked five comprehension questions about the passage, including simple recall and at least one inferential question	% correct

Note: As per the GEC-T guidance, WPM scores are capped at 100.

Table 21 describes the numeracy subtasks that were administered at midline. For each task, the table includes the skill area assessed, a description of the subtask, and how the subtask was scored.

Table 21. Numeracy subtasks

Number	Skill area	Description of task	Scoring
Numeracy			
EGMA subtask 1	Number identification	Students were asked to orally identify 20 one-, two-, and three-digit numbers	% correct
EGMA subtask 2	Number discrimination	Students were shown 10 sets of two numbers and asked to name the bigger of the two	% correct
EGMA subtask 3	Number pattern recognition	Students were shown 10 patterns of four numbers, one of which is missing, and are asked to identify the missing number	% correct
EGMA subtask 4	Addition	Students are asked to complete 25 addition problems	% correct
EGMA subtask 5	Subtraction	Students are asked to complete 25 subtraction problems	% correct
EGMA subtask 6	Word problems	Students are asked to answer five-word problems that are read out orally to the pupil	% correct

3.1.2 Impact of ENGINE II on literacy and numeracy outcomes

Overview of literacy and numeracy scores at midline

Table 22 and Table 23 present literacy and numeracy scores at midline before the impact estimation models are applied.

Table 22: Literacy scores at midline

	Intervention Group Mean	Control Group Mean	Standard Deviation in the intervention group
ISG (cross-sectional sample) (SeGRA)			
JSS3 (SS1)	21.2	15.7	20.578
SS1 (SS2)	27.2	22.9	23.464
SS2 (SS3)	16.0	16.5	16.245
Overall	23.0	18.04	21.662
OSG (panel sample) (EGRA)			
Overall	31.5	26.6	24.268

Table 23: Numeracy scores at midline

	Intervention Group Mean	Control Group Mean	Standard Deviation in the intervention group
ISG (cross-sectional sample) (SeGMA)			
JSS3 (SS1)	10.5	4.3	13.604
SS1 (SS2)	13.0	8.5	17.437
SS2 (SS3)	9.9	6.1	15.718
Overall	11.6	5.9	16.159
OSG (panel sample) (EGMA)			
Overall	66.2	61.3	18.758

Impact of ENGINE II on girls' literacy outcomes

Table 24 shows the difference-in-difference analysis for girls' literacy outcomes at midline. The last column in the table shows an adjusted difference-in-difference estimate based on multiple regression analysis controlling for various characteristics of the girls and their households. This approach is considered to be the more robust approach as it controls for potential imbalances between the two groups. Throughout this report, we calculate the performance against the Logframe targets using the adjusted impact estimates. Details of the impact estimation models are presented in Annex 3.[25]

Looking at the results for ISG, literacy levels at baseline were low, with ISG in the intervention group scoring on average 17.9 on the SeGRA literacy assessment. At midline, the average literacy score in the intervention group has improved significantly to 23.0, and the increase is moderate in magnitude (5.06). Literacy scores in the control group did not improve significantly between baseline and midline. As a result, the improvement in the intervention group is larger than that in the control group by 2.53 points (using the adjusted estimate), but this result does not reach statistical significance. The results from the impact estimation therefore do not find any evidence that ENGINE II has had an impact on literacy outcomes of ISG at midline.

Looking at the results for OSG, literacy levels at baseline were low, with OSG in the intervention group scoring on average 25.6 on the EGRA literacy assessment. At midline, the average literacy scores in the

[25] Based on guidance provided by the FM for the impact estimation, the cross-sectional impact analysis of the ISG sample excludes girls from baseline intervention schools that were not retained in the midline sample because the school is no longer part of the programme. Control schools that are matched to these intervention schools are also excluded from the baseline sample.

intervention group has improved significantly to 31.5, which is an increase of 5.91 points. Literacy scores in the control group did not improve significantly between baseline and midline. As a result, the improvement in the intervention group is larger than that in the control group by 3.67 points (using the adjusted estimate) and this result is statistically significant at the 5% level. The results from the impact estimation therefore find a statistically significant impact of ENGINE II on the literacy outcomes of OSG at midline.

Table 24: Impact of ENGINE II on literacy outcomes at midline

Cohort	Baseline literacy intervention	Midline literacy intervention	Difference baseline to midline	Baseline literacy control	Midline literacy control	Difference baseline to midline	Difference in difference (intervention – control difference) unadjusted	Difference in difference (intervention – control difference) adjusted
ISG (cross-sectional sample) (SeGRA)								
ISG	17.9	23.0	5.06***	15.9	18.0	2.16	2.90	2.53
N	330	505		329	515			
OSG (panel sample) (EGRA)								
OSG	25.6	31.5	5.91***	24.7	26.6	1.87	4.04	3.66**
N	265	265		236	236			

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01. The adjusted impact estimation results are based on a regression model controlling for girl-level covariates (described in Annex 3).

Literacy outcomes at midline for both ISG and OSG fall short of the Logframe targets (set at 0.25 SD), with the performance of ISG meeting 60.2% of the target. For OSG, this is 57.5%, although it is important to bear in mind that OSG in the intervention group improved significantly more on their literacy outcomes compared to OSG in the control group.

Table 25: Literacy results compared to targets

Result	Adjusted beta	p-value (P>|t|)	Target	Performance against target	Comments
ISG (cross-sectional sample) (SeGRA)	2.53	0.266	4.20	= 60.2%	Based on regression model controlling for the following girl-level covariates and with clustering at the school level: State, age, grade, disability status, orphan status, marriage, living with a sick parent, poverty score, school has no drinking water, school has no toilet
OSG (panel) (EGRA)	3.66	0.030	6.38	= 57.4 %	Based on regression model controlling for the following girl-level covariates and with clustering at the school level: Age, disability status, orphan status, marriage, living with a sick parent, poverty score

Note: Because of the change in the subtasks that are being compared across the two rounds, the learning targets were recalculated taking into account only the overlapping subtasks. The OSS has been updated with the updated scores from the benchmark sample and the weighted evaluation point 2 target that is calculated by the OSS is being used as the target here.

Impact of ENGINE II on girls' numeracy outcomes

Table 26 shows the difference-in-difference analysis for girls' numeracy outcomes at midline. Looking at the results for ISG, numeracy levels at baseline were very low, with ISG in the intervention group scoring on average 5.7 on the SeGMA numeracy assessment. At midline, the average numeracy score in the intervention group has improved significantly to 11.7, which represents a 5.9-point improvement compared to the baseline. In the control group, numeracy scores improved by only 2.1 points from 3.8 at baseline to 5.9 at midline. As a result, the improvement in the intervention group is larger than that in the control group by 3.46 points (using the adjusted estimate) and this result is marginally statistically

significant at the 10% level, suggesting some evidence of an impact of ENGINE II on the numeracy outcomes of ISG at midline.

Looking at the results for OSG, numeracy levels at baseline were moderate, with OSG in the intervention group scoring on average 60.5 on the EGMA numeracy assessment. At midline, the average numeracy scores in the intervention group has improved to 66.2, which is a statistically significant increase of 5.72 points. Numeracy scores in the control group did not improve significantly between baseline and midline. As a result, the improvement in the intervention group is larger than that in the control group by 3.01 points (using the adjusted estimate) and this result is marginally statistically significant at the 10% level, suggesting some evidence of an impact of ENGINE II on the numeracy outcomes of OSG at midline.

Table 26: Impact of ENGINE II on numeracy scores at midline

Cohort	Baseline numeracy intervention	Midline numeracy intervention	Difference baseline to midline	Baseline numeracy control	Midline numeracy control	Difference baseline to midline	Difference in difference (intervention – control difference) unadjusted	Difference in difference (intervention – control difference) adjusted
ISG (cross-sectional sample) (SeGMA)								
ISG	5.7	11.7	5.92***	3.8	5.9	2.10***	3.82***	3.46*
N	330	505		329	515			
OSG (panel sample) (EGMA)								
OSG	60.5	66.2	5.72***	58.8	61.3	2.43	3.29	3.01*
N	265	265		236	236			

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01. The adjusted impact estimation results are based on a regression model controlling for girl-level covariates (described in Annex 3).

Comparing findings against the Logframe, the Logframe target for ISG for numeracy has been met and exceeded. For OSG, 59.6% of the Logframe target has been achieved.

Table 27: Numeracy results compared to targets

Result	Adjusted beta	p-value (P>|t|)	Target	Performance against target	Comments
ISG (cross-sectional sample) (SeGMA)	3.46	0.066	2.39	= 144.8%	Based on regression model controlling for the following girl-level covariates and with clustering at the school level: State, age, grade, disability status, orphan status, marriage, living with a sick parent, poverty score, school has no drinking water, school has no toilet
OSG (panel) (EGMA)	3.01	0.080	5.05	= 59.6%	Based on regression model controlling for the following girl-level covariates and with clustering at the school level: Age, disability status, orphan status, marriage, living with a sick parent, poverty score

Note: Because of the change in the subtasks that are being compared across the two rounds, the learning targets were recalculated taking into account only the overlapping subtasks. The OSS has been updated with the updated scores from the benchmark sample and the weighted evaluation point 2 target that is calculated by the OSS is being used as the target here.

Nearly all the girls who were interviewed in the qualitative research positively affirmed that they had made remarkable progress since they began attending ENGINE classes.

"Whatever we do not understand in Math and English during their normal school classes, it is explained better to them during their ENGINE class." **ISG teacher, Jaba Kaduna**

"I did not know how to read and write but because of the ENGINE classes I know how to read and write." **ISG, Ankung, Kaduna**

In Kano, most of the respondents explained that they initially struggled with reading and speaking at the inception of the programme and with basic mathematics for their level but since joining the ENGINE group and being exposed to the new approach to teaching that the teachers received, the beneficiaries are now more knowledgeable in literacy and numeracy and are more confident about their learning.

"Maths has impacted me because before now, I did not understand Maths well like the LCM topic but now I know it very well." **ISG, Kano**

Some teacher and girls however also highlighted challenges in improving their learning outcomes related to the difficulty in catching up once one has already fallen behind the curriculum. For example, a teacher in FCT said that, in a bid to ensure that everyone in her class is carried along, a lot of time is spent bringing the slow learners up to speed on the basic foundations of a topic but before she is able to progress further into the topic for the day, the next teacher for the day is at the door ready to take over. This assertion was corroborated from the FGD session with the ISG. One of them was thankful for the ENGINE II learning centre meetings where some of the topics that were not sufficiently covered in class are clarified and simplified.

"The timing of the lessons [in school] is usually inadequate which makes the teachers to rush when teaching a lesson, most times I don't understand what is being taught and the teacher cannot help me. Most times it's the ENGINE teachers that explain lessons to me after school" **ISG, FCT**

In Kaduna, teachers identified the automatic promotion policy used in secondary schools as a barrier to learning, because girls are pushed through the school system even when they lack foundational knowledge, which makes it difficult for them to keep up with the curriculum that is expected of them in higher grades.

"One of the challenges to learning outcomes is that there is no repeating a class as a Government policy in Kaduna State. No matter how poor a child performs, as a teacher you cannot repeat that child. When the children graduate with a poor result the teachers are always fingered as not able to inculcate or teach the child to pass his/her exams. Some of the students get married and leave school after a year they will return back to join her mates in a new class and because of the educational gap that has occurred, there is no way she can cope as the curriculum is not structured for breaks." **Learning Centre Facilitator, Kaduna**

3.1.3 Foundational skills gap

In this section, we examine in more detail how literacy and numeracy outcomes of girls in the intervention group have changed since baseline by looking at the performance on each of the subtasks in the learning assessments. The analysis examines in which skill areas girls have improved and where there continue to be skill gaps.

For each subtask, girls are grouped into one of four categories (referred to as proficiency levels) based on how they performed on that subtask. Non-learners are girls who score 0% on the subtask, meaning that they have not yet acquired the underlying skill assessed by the subtask. On the other hand, a proficient learner is a girl who performs very well on the subtask, scoring between 80%–100%. As per GEC-T guidance, proficiency levels were created for each subtask (as described in Box 3). On the SeGRA and SeGMA subtasks, we split those girls who are non-learners on the subtask into two groups: those who did not attempt the subtask (no attempt) and those who attempted the subtask but did not score any points on the subtask (non-learner).

Box 3. Subtask proficiency levels

As per the GEC-T guidance provided, girls were classified into one of four proficiency levels for each subtask on the literacy and numeracy assessments based on the classification of score bands provided in the table below. Reading fluency subtasks are the letter sound identification subtask, reading familiar words subtask, reading non-words subtask, and oral reading fluency subtasks. For all other subtasks (reading comprehension in EGRA and all subtasks in SeGRA/EGMA/SeGMA), the percentage score was used to classify learners into score bands.

	Reading fluency subtasks	Other subtasks
Non-learner	0–5 WPM	0%
Emergent learner	6–44 WPM	1%–40%
Established learner	45–80 WPM	41%–80%
Proficient learner	81–100 WPM*	81%–100%

* As per the GEC-T guidance provided and as discussed in Annex 14, reading fluency subtasks are capped at 100 WPM.

The tables below show the proportion of girls in the intervention group that fall into each proficiency level for each subtask at midline. In brackets, we present the change in the proportion of girls that fall into each level since the baseline. The stars indicate whether the difference between baseline and midline is statistically significant.

Literacy skills gap

Table 28 shows the literacy skills gap at midline for ISG. On the first subtask, slightly more students fall into the established proficiency level, while fewer students fall into the emergent level and also slightly fewer students fall into the proficient level. The improvement seems marginal however, as 20% of students continue to fall into the non-learner band (which is a small increase compared to baseline).

On the essay writing task (subtask 3), there are some improvements in the higher bands, with slightly larger proportions of girls being emergent and established at this subtask. On the other hand, surprisingly, 30% of girls did not attempt the subtask at all compared to only 1% of girls at baseline. This might reflect a difference in scoring or, given that girls were already familiar with the type of task from baseline, they may have chosen not to attempt the task at all at midline. In either case, the results clearly show that more than half the girls at both baseline and midline are not able to write a short essay responding to a simple prompt. Overall, the findings suggest that the literacy gaps identified at baseline persist at midline.

Table 28: Literacy skills gaps at baseline and midline (ISG, intervention group)

Proficiency level	Subtask 1/2 Comprehension (+analytical qs) Midline % (% point change from baseline)	Subtask 3 Short essay Midline % (% point change from baseline)
No attempt	2.8 (-2.0)	29.5 (28.2***)
Non-learner 0%	20 (3.3)	22.8 (-35.0***)
Emergent learner 1%-40%	45.7 (-6.7**)	28.5 (0.0)
Established learner 41%-80%	29.7 (7.5***)	17.8 (5.4)
Proficient learner 81%-100%	1.8 (-2.1**)	1.4 (1.4)

Note: (1) The table shows the proportion of ISG in the intervention group that fall into each proficiency level for each of the literacy subtasks. Numbers in brackets show the change in the proportion of girls in the proficiency level since

baseline. (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

Among OSG, performance on the letter sound identification and non-word reading subtasks remains low, with large proportions of girls being non-learners or emergent learners and few changes over time (although some girls have moved from being a non-learner to becoming an emergent learner on the letter sound identification task). On the other hand, the proportion of non-learners on the familiar word reading task has decreased and the proportion of established learners has increased. Similarly, there are decreases in the proportion of girls who are non-learners in the oral reading fluency and comprehension tasks, while there are increases in the proportion of girls who are proficient in these tasks.

Overall, the findings show that there have been improvements in the proportion of girls who are able to read simple passages, and those who are able to understand these passages. Knowledge of letter sounds (a skill that is also used strongly in the non-word reading task) are usually taught early on in the curriculum as a precursor to full reading fluency. It is however likely that knowledge of letter sounds may deteriorate once girls have already learned to read and if they are no longer exposed to a school environment. It is also possible that some methods of instruction focus less on phonics knowledge when teaching literacy and girls may therefore learn to read without developing full proficiency on tasks that purely test phonics knowledge. It is important to bear in mind that the substantive skill that is important for OSG is the ability to read and understand text, and on these tasks, there have been significant improvements between baseline and midline, which the programme should seek to continue building.

Table 29: Literacy skills gaps at baseline and midline (OSG, intervention group)

Proficiency level	Subtask 1 Letter Sound Identification Midline % (% point change from baseline)	Subtask 2 Familiar Word Midline % (% point change from baseline)	Subtask 3 Non-Word Midline % (% point change from baseline)	Subtask 4 Oral Reading Midline % (% point change from baseline)	Subtask 5 Comprehension Midline % (% point change from baseline)
Non-learner 0%	52.8 (-11.4***)	13.6 (-8.3**)	33.2 (-2.3)	22.3 (-12.0***)	37.4 (-9.8**)
Emergent learner 1%-40%	40.4 (8.3**)	43.8 (-0.4)	59.2 (-0.8)	20.8 (0.8)	18.9 (-0.7)
Established learner 41%-80%	5.3 (2.3)	34.3 (11.7***)	4.9 (0.7)	18.9 (1.9)	24.2 (1.9)
Proficient learner 81%-100%	1.5 (0.7)	8.3 (-3.0)	2.6 (2.2**)	38.1 (9.4**)	19.6 (8.7***)

Note: (1) The table shows the proportion of ISG in the intervention group that fall into each proficiency level for each of the literacy subtasks. Numbers in brackets show the change in the proportion of girls in the proficiency level since baseline. (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

Numeracy skills gap

Table 30 shows the numeracy skills gap at midline for ISG. Across all three SeGMA subtasks, there have been significant improvements between baseline and midline. The proportion of girls that are not attempting or not scoring any points on these subtasks is lower at midline, while the proportion of girls who are in the emergent and established proficiency levels has increased significantly. This shows that the skills gap is narrowing across all of the domains tested, but that scores overall continue to remain low, with very few girls being proficient in any of the tasks.

Table 30: Numeracy skills gaps at baseline and midline (ISG, intervention group)

Proficiency level	Subtask 1a Advanced multiplication and division Midline % (% point change from baseline)	Subtask 1b Fractions and proportion Midline % (% point change from baseline)	Subtask 1c Geometry and measurement Midline % (% point change from baseline)
No Attempt	5.9 (-6.5***)	18 (-8.7***)	27.1 (-19.9***)
Non-learner 0%	46.5 (-11.1***)	57 (-7.1**)	56 (8.0**)

Proficiency level	Subtask 1a Advanced multiplication and division Midline % (% point change from baseline)	Subtask 1b Fractions and proportion Midline % (% point change from baseline)	Subtask 1c Geometry and measurement Midline % (% point change from baseline)
Emergent learner 1%-40%	28.1 (9.4***)	21.2 (12.5***)	15 (10.2***)
Established learner 41%-80%	13.1 (6.4***)	2.8 (2.4***)	1.6 (1.4**)
Proficient learner 81%-100%	6.3 (1.7)	1 (1.0**)	0.2 (0.2)

Note: (1) The table shows the proportion of ISG in the intervention group that fall into each proficiency level for each of the literacy subtasks. Numbers in brackets show the change in the proportion of girls in the proficiency level since baseline. (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

Amongst OSG, performance on the number identification and number discrimination tasks has not improved since baseline, but performance on these tasks was already relatively high, with the majority of girls being classified as proficient. There were also no improvements on the number pattern identification (missing numbers) subtask, where girls continue to perform poorly, with the majority of girls being classified as emergent learners. On the other hand, there have been improvements in the addition and subtraction subtasks, with significantly fewer girls being in the emergent level at midline, while a higher proportion of girls are proficient in these tasks. The proportion of girls who are proficient on the word problem subtask has also increased, while the proportion of non-learners on this task has decreased.

Overall, the findings show that the skills gap in those tasks (addition, subtraction, word problems) that are likely to be particularly applicable to day-to-day activities, running a business and to financial literacy has improved between baseline and midline, and the programme should seek to continue strengthening these improvements.

Table 31: Numeracy skills gaps (OSG, intervention group)

Proficiency level	Subtask 1 Number Identification Midline % (% point change from baseline)	Subtask 2 Number Discrimination Midline % (% point change from baseline)	Subtask 3 Missing Numbers Midline % (% point change from baseline)	Subtask 4 Addition Midline % (% point change from baseline)	Subtask 5 Subtraction Midline % (% point change from baseline)	Subtask 6 Word problems Midline % (% point change from baseline)
Non-learner 0%	0.4 (0.0)	1.5 (0.4)	6 (0.7)	3.4 (0.8)	7.5 (-2.3)	3.8 (-5.6***)
Emergent learner 1%-40%	5.7 (0.4)	6.4 (1.9)	66.8 (-0.4)	14.3 (-14.8***)	24.9 (-11.3***)	15.1 (-3.4)
Established learner 41%-80%	33.2 (1.9)	15.5 (-3.7)	22.3 (-1.1)	42.6 (-8.3*)	49.8 (2.6)	38.5 (-2.6)
Proficient learner 81%-100%	60.8 (-2.2)	76.6 (1.5)	4.9 (0.7)	39.6 (22.2***)	17.7 (10.9***)	42.6 (11.7***)

Note: (1) The table shows the proportion of ISG in the intervention group that fall into each proficiency level for each of the literacy subtasks. Numbers in brackets show the change in the proportion of girls in the proficiency level since baseline. (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

3.1.4 Literacy and numeracy outcomes by grade achieved

The EGRA/SeGRA and EGMA/SeGMA subtasks were designed to assess the foundational skills and difficulty levels experienced by girls out-of-school and those in secondary school. To achieve an appropriate grading level for the evaluation sample, the national curriculum for basic education and secondary education was reviewed. This is to make sure that the learning levels that should be achieved by girls at the end of each grade through the achievements at subtasks were adequately captured. To report on the

'grade achieved' by the girls, we followed the same pattern used in identifying foundational skills gaps, however, limiting this to the proportion of learners who were categorised as established or proficient in the subtask(s). By this, all learners (starting with the out-of-school up to the in-school girls) were graded to map their proficiency levels from the tests to the grades according to the national curriculum.

Grade achieved in English literacy (EGRA/SeGRA)

To achieve grade 1 in literacy, learners must demonstrate proficiency in letter sound identification, familiar words and non-words. The percentage of girls who achieve this remains very low at midline. On the other hand, 45% of girls in the intervention group have achieved a grade 4 level at midline. This illustrates that skills are not necessarily acquired in the order in which they are intended by the curriculum, possibly because teachers are themselves not adequately trained to teach phonics knowledge or because they prefer to teach reading through a different approach.

The findings presented here also show that overall, girls are far behind their grade levels. Amongst the ISG, who are in grades JSS3 (grade 9 equivalent) to SS2 (grade 11 equivalent), only 1.4% of girls in the intervention group and no girls in the control group score at the grade 9 level on the learning assessments. Although a larger proportion of girls are able to score at the grade 8 level, the proportion of girls scoring at this level is still less than one-fifth of all girls.

As we discuss in the section on teaching quality, one of the challenges that teachers face is trying to teach so many girls that have fallen so far behind the curriculum and that may be at such varying skill levels despite being in the same grade.

Table 32: Grade achieved in literacy (EGRA/SeGRA)

	Relevant subtasks	Literacy	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Grade 1 achieved	Subtask 1, 2 and 3 (EGRA)*	Proficient in Letter Sound Identification, Familiar Word, Non-Word	0.4	0.0	1.1	0.0
Grade 2 achieved	Subtask 4 (EGRA)*	Established in Oral Reading Fluency	17.0	14.0	18.8	15.7
Grade 3 achieved	Subtask 5 (EGRA)*	Proficient in Comprehension of short fluency paragraph	10.9	9.8	19.6	9.8
Grade 4 achieved	Subtask 6 (SeGRA subtask 1)**	Established in Comprehension (EGRA subtask 5 + qs)			45.0	38.5
Grade 5 achieved	Subtask 6 (SeGRA subtask 1) **	Proficient in Comprehension (EGRA subtask 5 + qs)			11.7	6.4
Grade 6 achieved	Subtask 7 (SeGRA subtask 2) **	Established in Comprehension (+inferential – less tough)			29.7	23.9
Grade 7 achieved	Subtask 7 (SeGRA subtask 2) **	Proficient in Comprehension (+inferential – less tough)			1.8	1.2
Grade 8 achieved	Subtask 8 (SeGRA subtask 3) **	Established in Short Essay construction	12.4	14.7	17.8	15.0
Grade 9 achieved	Subtask 8 (SeGRA subtask 3) **	Proficient in Short Essay construction	0.0	0.2	1.4	0.0

Note: * Panel sample for OSG, **cross-sectional sample for ISG

Grade achieved in numeracy (EGMA/SeGMA)

The findings on the grade achieved in numeracy show that girls are very far behind curriculum expectations, with only approximately half the girls being able to achieve the grade 1 level, which required girls to be proficient in number identification and number discrimination. Only very few girls achieve any of the higher grade levels. These findings illustrate the challenge that exists for teachers and for programmes like ENGINE II to continue building the foundational skills of the many girls that have fallen far behind the curriculum while also keeping up with the required lessons set out in the curriculum.

Table 33: Grade achieved in numeracy (EGMA/SeGMA)

	Relevant subtasks	Numeracy	Intervention (Baseline) (%)	Control (Baseline) (%)	Intervention (Midline) (%)	Control (Midline) (%)
Grade 1 achieved	Subtask 1 and 2 (EGMA)*	Proficient in Number Identification and in Number Discrimination	57.7	48.3	53.6	45.8
Grade 2 achieved	Subtask 3 and 4 (EGMA)*	Proficient in Missing Numbers and Additions	3.4	5.5	4.9	3.8
Grade 3 achieved	Subtask 5 and 6 (EGMA)*	Proficient in Subtractions and Words Problem	3.4	4.7	13.2	9.3
Grade 4 achieved	Subtask 7 (SeGMA 1) **	Established in Advanced multi and division	6.7	4.7	13.1	6.6
Grade 5 achieved	Subtask 7 (SeGMA 1) **	Proficient in Advanced multi and division	4.6	2.9	6.3	2.7
Grade 6 achieved	Subtask 8 (SeGMA 2) **	Established in Fractions and proportion	0.4	0.7	2.8	1.2
Grade 7 achieved	Subtask 8 (SeGMA 2) **	Proficient in Fractions and proportion	0.0	0.0	1.0	0.4
Grade 8 achieved	Subtask 9 (SeGMA 3) **	Established in Geometry and measurement	0.2	0.0	1.6	1.0
Grade 9 achieved	Subtask 9 (SeGMA 3) **	Proficient in Geometry and measurement	0.0	0.0	0.2	0.0

Note: * Panel sample for OSG, **cross-sectional sample for ISG

3.1.5 Floor effects on the learning assessments

Looking at the distribution of scores on the SeGRA subtasks, there is no floor effect on the newly introduced subtask (EGRA comprehension), but there continue to be floor effects on the other two subtasks (comprehension with less tough inferential questions, and the short essay subtask). If we compare the scores on the overall SeGRA combining all three subtasks (Figure 4) to the score that uses only the second and third subtask (Figure 3), we see that the floor effect is reduced substantially when using the three subtasks. This means that the introduction of the easier subtask for ISG has reduced the floor effect, which will be beneficial for the midline to endline comparison.

For the BL to ML comparison, it was necessary to use only the subtasks that were administered in both rounds (based on the FM guidance), and as a result, we continue to observe a floor effect on the overall SeGRA score. It should be noted however, that the evaluation was able to observe an improvement in performance on the comprehension subtask between baseline and midline. While no improvement was yet observed on the short essay subtask, the decision was made prior to midline to retain this task

because it assesses an important skill (writing) that students in secondary school should acquire and that is not assessed by the other subtasks.

Figure 3: Distribution of scores on the SeGRA subtasks (full sample at midline)

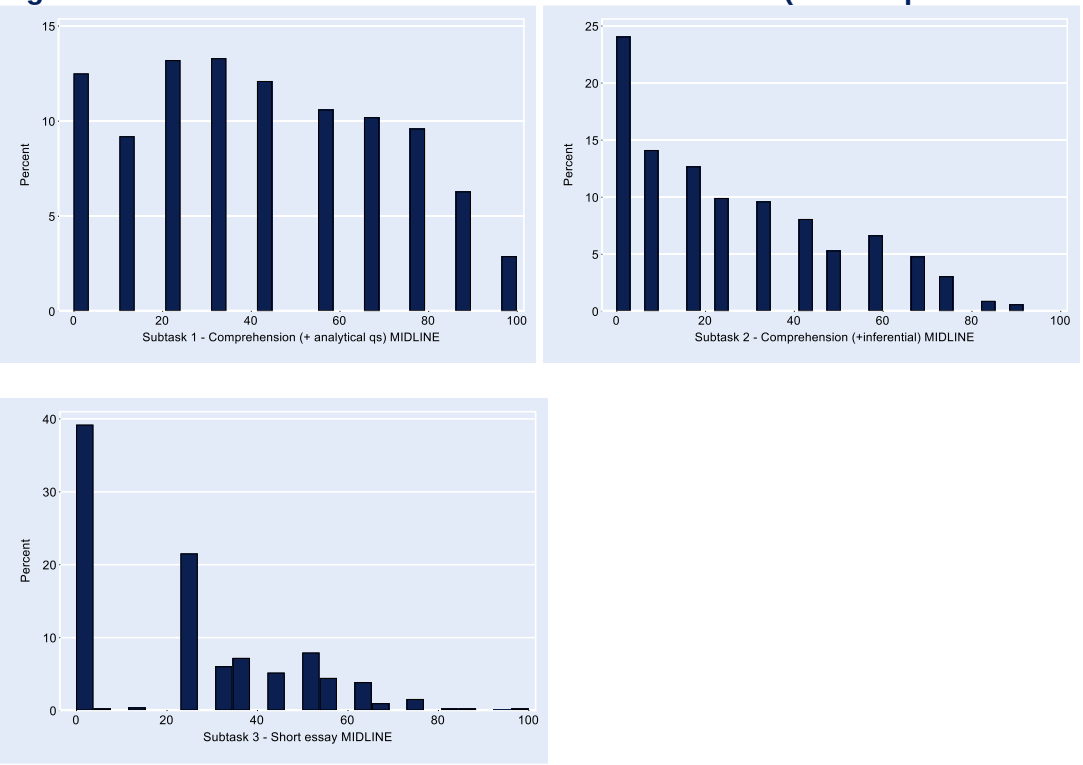


Figure 4: Distribution of scores on SeGRA using the overlapping subtasks (full sample at midline)

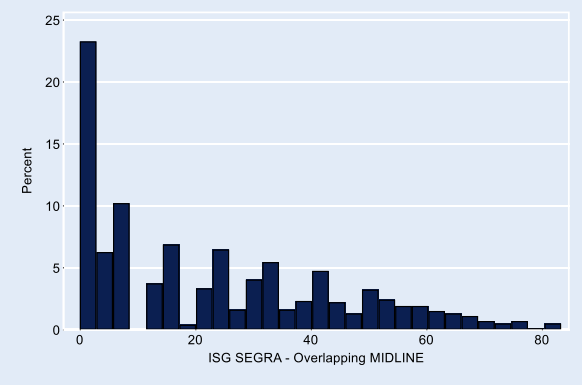
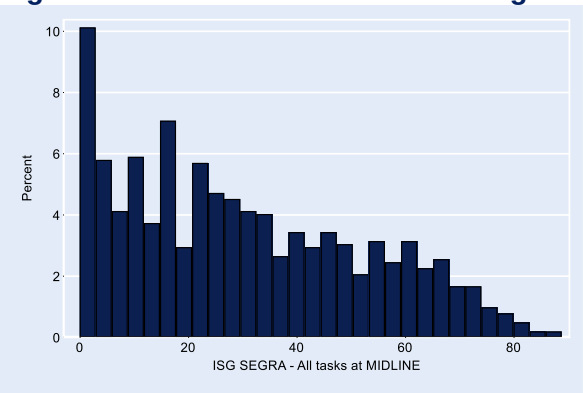


Figure 5: Distribution of SeGRA using all subtasks (full sample at midline)



There continue to be severe floor effects on the SeGMA subtasks. This would have been expected given the results observed at baseline. Despite the floor effects, the evaluation found a large and statistically significant impact of ENGINE on numeracy using the SeGMA assessment, and the subtask analysis shows that there have been significant improvements in all the subtasks. Given the need for comparability, the assessment is therefore appropriate to be used. The introduction of the three easier word problems at midline will not substantially reduce these floor effects as performance on each of the three items was relatively poor with less than 30% of students answering each question correctly.

Figure 6: Distribution of scores on the SeGMA subtasks (full sample at midline)

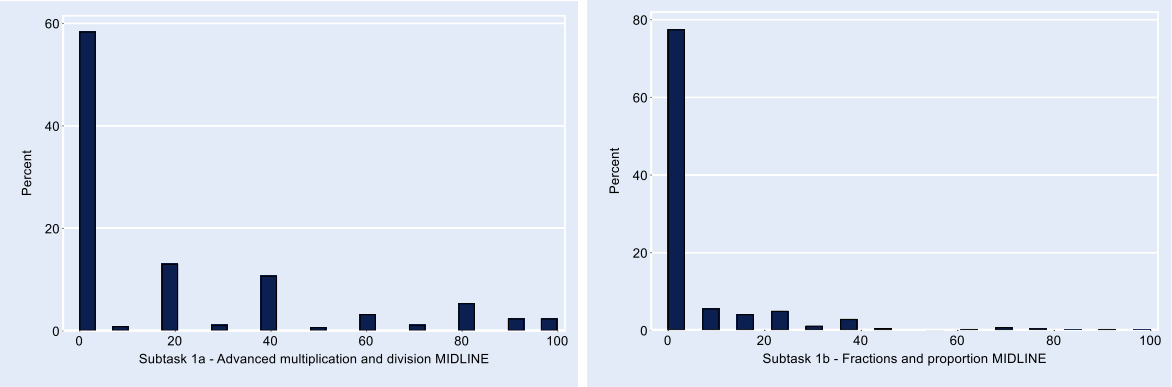
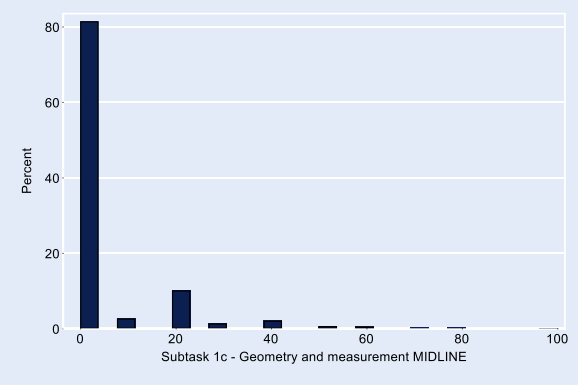
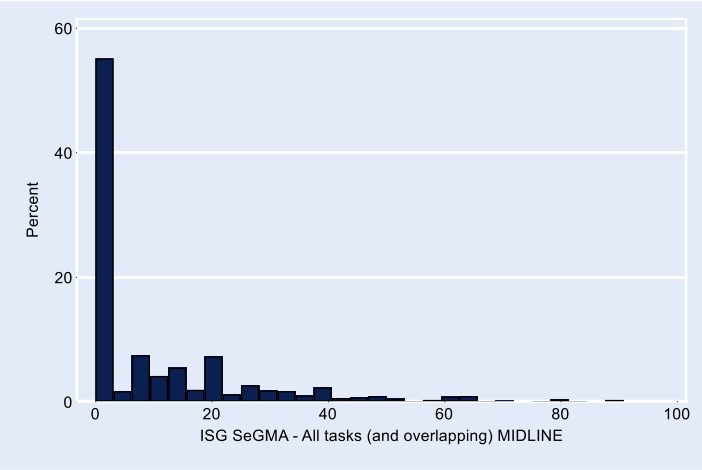


Figure 7: Distribution of scores on SeGMA using the overlapping subtasks (full sample at midline)





3.1.6 Subgroup analysis of the literacy and numeracy outcomes

In this section, we examine how baseline and midline literacy and numeracy outcomes differ for girls with different characteristics or who face particular barriers to their education. We also examine how the change in literacy and numeracy outcomes between baseline and midline for these girls compares to the change seen in the sample as a whole.

Table 34 shows the literacy and numeracy scores of key subgroups for ISG in the intervention group. The table shows the outcomes achieved at baseline and at midline, as well as the change over time. Asterisks indicate whether the change since baseline is statistically significant. While this breakdown is informative, the findings need to be interpreted with caution because correlations between characteristics/ barriers and learning outcomes (or change in learning outcomes) may be reflective of other structural factors.

As was the base at baseline, girls from the FCT have higher literacy and numeracy scores on average than girls from Kano and Kaduna. This reflects national trends across the country. What is of interest is that girls from the FCT also improved more between baseline and midline, compared to girls from the other two states. Improvements over time in Kaduna state were also statistically significant but of a smaller magnitude compared to the FCT, while literacy and numeracy scores did not improve significantly in Kano state between baseline and midline. These findings suggest that it may be important for the programme to examine what may be causing this differential performance across states. For example, was implementation of programme activities of a higher quality in the FCT? Or is it the case that barriers to education (such as absence from school during the farming season or pre-existing levels of teaching quality) are easier to overcome in the FCT compared to the other states?

Looking at performance by grade[26], girls who were in SS1 at baseline made the most consistent improvements in both literacy and numeracy. Girls who were in JSS3 at baseline improved significantly in numeracy, but not in literacy. Girls who were in SS2 at baseline showed a small but significant improvement on their numeracy scores, but their literacy scores fell significantly. It is important to note that girls who were in SS2 at baseline were in their last year of secondary school (SS3) at midline, and many would have been preparing for their end-of-school exams or even writing these exams at the time of the survey. It is therefore possible that some of these girls may have lacked the motivation or concentration to perform well on these learning assessments if they were focusing on their exam preparation.

It is difficult to interpret the findings for girls who have a disability, girls who are married and girls who feel unsafe at school given the very small number of girls who fall into these groups, as well as the cross-sectional nature of the sample that is being analysed. For example, it is possible that the girls who

[26] The performance by age is less informative given that the vast majority of girls are aged 17 or 18.

reported having a disability at midline are top-up girls and that the nature of their disability is very different to those from the baseline sample.

What is notable is that girls from extremely poor households perform more poorly than the average girl in the sample on both literacy and numeracy, and that their improvements over time are smaller than the sample average. This suggests that it is important for ENGINE II to pay particular attention to barriers that may prevent girls from poor households from attending ENGINE II activities or from learning from these activities.

Girls who attend schools without drinking water, who do not use the toilet at school or who travel long distances to school do not perform worse than all ISG on average. These girls also have similar improvements to the average ISG on their numeracy scores. On literacy, girls who travel long distances to school and those who do not have access to drinking water did not improve significantly between baseline and midline. It may be that in an environment where infrastructural and teaching and learning resources are generally poor, these factors pose less of a disadvantage. It is also not always clear to what extent long distances of travel to school pose a disadvantage as some parents may choose to send their daughters to schools that are further away if the school offers a better quality of education.

Table 34: Learning scores of key subgroups (ISG, intervention group)

Characteristics			Literacy			Numeracy		
	N at BL	N at ML	Baseline	Midline	Change since baseline	Baseline	Midline	Change since baseline
Average for ISG	460	505	20.2	23.0	2.7**	5.3	11.7	6.3***
State								
FCT	130	118	35.1	42.5	7.4***	6.6	19	12.4***
Kaduna	180	191	15.5	20.1	4.6**	4.7	12.4	7.7***
Kano	150	196	13	14	1	5	6.5	1.5
Age (based on age at baseline)								
Age 17 – 18	421	485	20.7	23.3	2.6*	5.5	11.6	6.1***
Age 19 – 20	35	17	16.3	13.3	-3	4.6	13.6	9.0**
Age 21 – 23	4	3	9.4	29.5	20.1	0	14.8	14.8
Grade (based on grade at baseline)								
JSS3	80	129	18.4	21.2	2.8	1.8	10.5	8.7***
SS1	112	255	18.6	27.2	8.6***	4.7	13	8.3***
SS2	268	121	21.5	16	-5.5***	6.7	9.9	3.2**
Characteristics and barriers								
Has disability	22	12	26.8	10.4	-16.4**	6.4	5.9	-0.5
Married	5	4	10.8	3.6	-7.2	0	13.6	13.6*
Orphan	159	98	19.2	15.9	-3.3	4	9	5.0***
Likely to be extremely poor	70	51	10.3	11.1	0.8	3.4	6.3	2.9*
Long travel to school (over 30 minutes)	144	185	25.1	24.7	-0.4	6.2	11.2	5.0***
Feels unsafe at school	15	12	19.7	33.7	14	3.3	17.5	14.2**
School has no drinking water	137	149	24.1	22.5	-1.6	5.5	13.4	7.9***
Does not use toilet at school	211	306	20.5	24	3.5*	5.7	13.1	7.4***

Note: (1) Based on midline cross-sectional sample of ISG in the intervention group (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

Amongst OSG, there is a less clear pattern of performance across the states compared to the ISG. Girls in Lagos have the highest learning outcomes at both baseline and midline, but their scores did not increase significantly over time. Girls in the FCT and girls in Kaduna have relatively similar learning

outcomes, while girls in Kano state performed more poorly at baseline and midline, and their literacy scores improved less over time compared to OSG from the other two states. On the other hand, over time, girls' numeracy scores improved the most in Kano. Numeracy scores also improved significantly in Kaduna state, but did not improve in the FCT.

By age, while the literacy and numeracy scores of younger girls (those who are 17 or 18) were the lowest at baseline, these girls have improved the most over time. At midline, younger girls have similar literacy and numeracy scores to the older girls.

Girls from extremely poor households perform more poorly on literacy and numeracy compared to the average OSG. However, numeracy scores for girls from extremely poor households showed a large improvement over time.

Table 35: Learning scores of key subgroups (OSG) using the panel sample

Characteristics	N at BL	N at ML	Literacy			Numeracy		
			Baseline	Midline	Change since baseline	Baseline	Midline	Change since baseline
Average for OSG	265	265	25.6	31.5	5.91***	58.8	61.3	2.43
State								
FCT	30	30	26.7	33.8	7.1	61.6	63.3	1.7
Kaduna	89	89	22.7	30.4	7.7**	58.4	65.8	7.4***
Kano	93	93	17.5	21.7	4.2	53.8	61.9	8.1***
Lagos	53	53	44.3	49.4	5.1	75.1	75.9	0.8
Age (based on age at baseline)								
Age 17 – 18	79	77	21.7	30.9	9.2**	55.6	66.1	10.5***
Age 19 – 20	114	105	29.2	31.6	2.4	62.1	66.4	4.3*
Age 21 – 23	72	83	24.4	32	7.6**	63.3	66.1	2.8
Characteristics and barriers								
Has disability	6	5	31.9	33	1.1	70.1	65.8	-4.3
Married	91	103	17.6	23.7	6.1**	57	62.8	5.8**
Orphan	84	105	23.6	28.3	4.7	60.8	65.2	4.4*
Likely to be extremely poor	31	33	15.1	18.3	3.2	50.7	57.8	7.1

Note: (1) Based on midline panel sample of OSG in the intervention group (2) Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

3.2 Life skills outcome

This section examines the impact that ENGINE II has had on the life skills of ISG and OSG. ENGINE II targets life skills through a bespoke life skills curriculum designed by the programme. Learning centre facilitators cover this curriculum with the girls during the learning centre sessions. Box 4 provides GEC's definition of life skills.

Life skills is both an overall outcome of the programme, while aspects of life skills are also IOs targeted by the programme. In this chapter, we discuss the impact that ENGINE II has had on overall life skills, focusing in particular on girls' confidence to participate in school, in the learning centre and in life more generally, as well as the extent to which they are involved in decisions made about their lives. In chapter 6.4, we discuss further life skills as they are related to the IO Logframe indicators. Chapter 6.4 focuses on girls' decision-making skills, and on their menstrual hygiene knowledge and management practices.

Box 4: Life skills

According to the GEC Guidance (Part 1), "Life skills" is defined as the skills necessary for full and active participation in everyday life; they encompass cognitive skills for analysing and using information and for problem-solving, personal skills for developing personal agency and managing oneself, and inter-personal skills for communicating and interacting effectively with others. This includes a range of skills-based interventions including learning about sexual and reproductive skills, financial literacy, vocational skills and leadership.

After the baseline, the programme finalised the life skills curriculum for each of the states where it was carrying out activities. The documents were prepared to reflect the context of each locality with input from multiple stakeholders from government, civil societies and the Mercy Corps global team. The life skills manuals are being used by the LCFs every week at the different learning centres for ISGs and OSGs for at least 30 minutes. The programme experienced a slight delay while working to finalise the manual but in the interim, it adopted the Adult Mass Education life skills curriculum that was available in each of the states.

3.2.1 Measurement of the life skills outcome

A life skills index was generated from a set of statements that ask girls about their perceptions around life skills in the classroom, life skills for continuing their education and their involvement in making decisions about their own lives. The statements are taken from the FM template, which changed between baseline and midline, with some questions being dropped while others were added. For comparability between baseline and midline, the life skills index uses only the 18 statements that are common to both rounds. The box below explains the construction of the life skills index.

Construction of the life skills index

The life skills index is based on 18 statements that were administered at both baseline and midline.

Ten statements are scored on a 5-point Likert-type scale with the options 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' and 'strongly disagree'. Girls are considered to agree with the statement if they selected 'strongly agree' or 'agree' for statements that are phrased positively. Two statements ('I get nervous when I have to read in front of others' and 'I get nervous when I have to do maths in front of others') are phrased negatively; these two statements are reverse-scored so that 'strongly disagree' and 'disagree' are taken to refer to 'good life skills'. The remaining eight statements ask about the extent to which the girl is involved in decision-making, and have three answer options: 'I decide', 'I decide jointly with my family' and 'My family decides'. On each question, girls are considered to have 'good life skills' if they selected either the first or the second option, that is, if they were involved in the decision-making process.

A continuous scale ranging from 0 to 18 was created, representing the number of statements with which the girl agreed. Change is assessed by looking at whether the average number of statements with which the girl agrees increases over time.

In the baseline report, a binary measure was also created from this scale. Girls who agreed with at least 70% of the statements (21 out of the 28 statements that were part of the tool at baseline) were considered to have good life skills. At midline, we also created a binary measure in order to report against the Logframe where targets were set against a binary measure. We set a similar threshold and consider girls who agree with at least 13 out of the 18 questions (72% of the statements) to have good

Construction of the life skills index

life skills. The life skills index scores at baseline were recalculated using only the 18 statements that were administered in both rounds.

We use the binary measure to report against the baseline Logframe indicator, but use the continuous aggregate measure in the remainder of the section. The advantage of a continuous scale is that it is possible to capture changes at any point on the scale. When using a binary measure, the measure only captures changes around the chosen threshold point (**i.e. at the point of 70% agreement with the statements)** and is therefore more restrictive in illustrating which changes have occurred over time.

3.2.2 Impact of ENGINE II on life skills

Overview of life skills scores and comparison to Logframe targets

Table 36 shows the percentage of girls who have good life skills at baseline and midline in the intervention and control groups using the binary measure. There have been no statistically significant improvements in the proportion of girls who have good life skills between baseline and midline (that is, in the proportion of girls who agree with at least 70% of the statements on the life skills index). This is the case when looking at the sample overall, and for ISG and OSG separately. In the control group, the proportion of ISG with good life skills decreased significantly (at the 10% level) between baseline and midline.

Table 36: Life skills scores at baseline and midline

	Intervention (baseline) (%)	Intervention (midline) (%)	Change between BL and ML (% point)	Control (baseline) (%)	Control (midline) (%)	Change between BL and ML (% point)
All girls	61.9	65.0	3.1	58.8	56.1	2.7
ISG	63.7	61.6	-2.1	60.9	54.9	-6.1*
OSG	66.4	67.5	1.1	57.6	53.0	-4.6

Note: Asterisks indicate that the difference between baseline and midline is statistically significant: *** p<.001, ** p<.05, * p<.01.

The programme had set out to achieve a 20%-point increase in the percentage of girls with good life skills at midline compared to baseline (Table 37). This target has not been achieved as the percentage of girls with good life skills has increased only marginally and non-significantly in the intervention group.

Secondly, the table reports on the new version of the indicator introduced at midline, which is based on the average aggregate score on a continuous scale. This indicator was retrospectively calculated for the baseline group. Based on this indicator, girls at midline agree with on average 13.46 out of 18 statements. This is a small but statistically significant increase from baseline, where girls agreed with 13.11 statements on average.

Table 37. Logframe indicator on the life skills outcome

Outcome	Indicator	Baseline	Midline target (% point improvement)	Midline	Target achieved? (Y/N)	Target for next evaluation point (% point improvement)	Will IO indicator be used for next evaluation point? (Y/N)
Life skills	Percentage of girls with good life skills, defined as percentage of girls who score at least 70% on the life skills index [old indicator]	All girls: 61.9% ISG: 63.7% OSG: 66.4%	BV + 20%	All girls: 65.0% ISG: 61.6% OSG: 67.5%	All girls: N ISG: N OSG: N	BV + 50%	N
	Girls aggregate score on the life skills ladder index [new indicator at ML]	All girls: 13.11 ISG: 13.22 OSG: 13.34	Not set	All girls: 13.46 ISG: 13.31 OSG: 13.68	N/A	To be determined	Y
Reflections and targets							
• The endline target for the new indicator definition needs to be set. • The indicators are fit for purpose, logical, and measurable.							

Impact of ENGINE II on life skills

In this section, we examine whether ENGINE II has had an impact on girls' life skills at midline. The aggregate score on the continuous scale is used for this analysis.

Findings highlighting the impact of the ENGINE II programme on the life skills of girls between baseline and midline are presented in the table below. The results are also disaggregated by in-school and out-of-school status (Table 38). At baseline, girls in the intervention group scored on average 13.11 on the life skills index (meaning that they agreed with 13.11 out of 18 questions on average). At midline, girls in the intervention group scored on average 13.46 on the life skills index, which represents a statistically significant 0.35-point improvement compared to baseline. On the other hand, girls' scores on the life skills index did not improve significantly in the control group. As a result, scores in the intervention group increased by 0.48 points over and above scores in the control group, but this difference is not statistically significant.

While the intervention did not influence the life skills in the overall sample of girls, statistically significant programme impact was observed separately for the ISG and OSG sub-groups (statistically significant at the 10% level for the adjusted estimate). The programme effected an increase in the life skills index by 0.61 points amongst ISG, and an increase of 0.76 points amongst OSG. There is therefore some evidence that ENGINE II has had a small positive impact on girls' life skills at midline.

Table 38: Impact of ENGINE II on the life skills of girls

Variable	Baseline intervention	Midline intervention	Diff baseline to midline intervention	Baseline control	Midline control	Diff baseline to midline control	Diff-in-diff (Intervention – control) unadjusted	Diff-in-diff (Intervention – control) adjusted
Life skills all	13.11	13.46	0.35**	12.76	12.64	-0.12	0.47	0.48
Life skills ISG	13.22	13.31	0.09	13.03	12.56	-0.47	0.56	0.61*

Variable	Baseline intervention	Midline intervention	Diff baseline to midline intervention	Baseline control	Midline control	Diff baseline to midline control	Diff-in-diff (Intervention – control) unadjusted	Diff-in-diff (Intervention – control) adjusted
Life Skills OSG	13.34	13.68	0.34	12.72	12.3	-0.42*	0.76	0.76*

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01. The adjusted impact estimation results are based on a regression model controlling for girl-level covariates.

The qualitative study find that the majority of the girls feel that their life skills have improved as a result of the ENGINE II programme. For those in school, improved life skills meant being able to engage with their teachers and peers in class; the ability to communicate clearly and to make informed decisions. For OSG, improved life skills mostly meant being able to run their businesses well, interact with their customers and be assertive.

Girls reported improvements in their ability to speak publicly or engage with customers, and to interact with people of different backgrounds.

"People understand me more because I am more assertive and communicate better with people especially in English, and this is because of the literacy classes I attend that have been organised by ENGINE II." **OSG respondent, Lagos.**

"I have learnt how to talk and attend to customers because of the confidence I gained from the learning space lessons." **OSG Respondent, FCT, Abuja**

SBMC members also reported observing a change in the behaviour of the girls.

"their mentality has changed from speaking about just marriages and clothes to having real impactful conversations." **SBMC member, Kaduna**

Further analysis of changes in life skills over time

Table 39 illustrates the extent of girls' confidence and their belief in their ability to navigate school and life situations between baseline and midline across intervention and control areas. The table shows the percentage of girls that have 'good life skills' broken down by the first 10 statements of the life skills index. The remaining eight statements on decision-making are explored further in Chapter 6.5.

At midline, a larger fraction of girls in intervention group reported that they could describe their thoughts when they speak, could organize their peers/friends to do activities if the opportunity presented itself, and would ask the class teacher when they do not understand something. Girls in the intervention group were also more likely to disagree that they were nervous reading or doing maths in front of others by midline. All these factors indicate an improvement in their overall ability to make decisions. While girls in control areas reported similar improvements on a number of factors, there was no improvement amongst control girls on classroom participation (asking teachers questions) and less improvement amongst control girls on feeling nervous when doing maths in front of others.

Amongst control girls, the percentage of girls who want to continue school or training after this year, and the percentage of girls who report receiving support from their families to stay in school/training has decreased significantly between baseline and midline. This decrease was not observed in the intervention group.

Table 39: Changes in girls' life skills between baseline and midline

Factor	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)	Source
N	451	415	451	415	

Factor	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)	Source
I get nervous when I have to read in front of others (% disagreement)	37.03	43.90**	27.71	35.18**	D3_new
I get nervous when I have to do maths in front of others (% disagreement)	32.15	47.23***	29.16	34.70*	D4_new
I feel confident answering questions in class/safe space (% agreement)	87.36	89.8	82.65	81.2	D5_new
I would like to continue attending school/training after this year (% agreement)	98.45	97.34	96.63	93.98*	D7_new
I recognise when choices I make today about my studies/training can affect my life in the future. (% agreement)	82.71	84.26	85.06	83.37	D9_new
I can describe my thoughts to others when I speak (% agreement)	90.47	94.24**	89.64	93.25*	D10_new
I can work well in a group with other people (% agreement)	96.67	97.34	97.59	97.59	D13_new
When I have the opportunity, I can organize my peers or friends to do an activity. (% agreement)	92.46	95.79**	90.6	94.94**	D14_new
I ask the teacher if I don't understand something (% agreement)	94.24	98.23***	92.05	92.05	D16_new
I get support I need from my family to stay in school and perform well (% agreement)	88.25	88.47	81.45	73.01***	D19_new

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

3.2.3 Subgroup analysis of the life skills outcome

In this section, we examine how baseline and midline life skills outcomes differ for girls with different characteristics or who face particular barriers to their education. We also examine how the change in life skills outcomes between baseline and midline for these girls compares to the change seen in the sample as a whole.

Table 34 shows the percentage of girls with good life skills in key subgroups for ISG in the intervention group. The table shows the baseline and at midline statistics, as well as the change over time. Asterisks indicate whether the change since baseline is statistically significant. While this breakdown is informative, the findings need to be interpreted with caution because correlations between characteristics/ barriers and life skills (or change in life skills) may be reflective of other structural factors.

Although the change in the percentage of girls is statistically significant in only few cases, the general pattern of results mirrors the pattern of results for the learning outcomes for ISG. Girls from the FCT are more likely to have good life skills than girls from other states at both baseline and midline, and they have the highest rate of improvement over time. On the other hand, the percentage of girls with good life skills has dropped in Kano between the two time points.

Similar to the learning outcome subgroup analysis, girls who were in SS1 at baseline improved most on their life skills, although the differences between the grades are small.

Also, in line with the subgroup analysis on learning outcomes, fewer girls from extremely poor households have good life skills compared to the sample overall. However, the percentage of girls with good life skills has increased by 3.9%-points over time, suggesting that there were greater improvements in the life skills of girls from extremely poor households than for the ISG sample overall.

The percentage of girls with good life skills has dropped for girls who attend schools with no drinking water and no toilet. It's not clear why there has been such a large drop amongst girls who attend schools with no drinking water.

Table 40. Life skills amongst ISG in the intervention group (subgroup analysis)

Characteristics			Has good life skills		
	N at BL	N at ML	Baseline (%)	Midline (%)	Change since baseline (% point)
Average for ISG	460	515	63.7	61.55	-2.15
State					
FCT	130	124	73.8	81.5	7.7
Kaduna	180	195	64.4	63.1	-1.3
Kano	150	196	54	47.4	-6.6
Age (based on age at baseline)					
Age 17 – 18	421	492	62.7	60.6	-2.1
Age 19 – 20	35	20	74.3	80	5.7
Age 21 – 23	4	3	75	100	25
Grade (based on grade at baseline)					
JSS3	80	129	65	59.7	-5.3
SS1	112	255	58.9	60.4	1.5
SS2	268	131	65.3	65.6	0.3
Other characteristics					
Has disability	22	12	63.6	58.3	-5.3
Married	5	5	40	60	20
Orphan	159	101	64.8	62.4	-2.4
Likely to be extremely poor	70	53	41.4	45.3	3.9
Long travel to school (over 30 minutes)	144	191	61.8	62.3	0.5
Feels unsafe at school	15	12	46.7	66.7	20
School has no drinking water	137	149	75.9	54.4	-21.5***
Does not use toilet at school	211	308	60.7	56.5	-4.2

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Amongst OSG, girls from Kano state are least likely to have good life skills at both baseline and midline, and the percentage of girls with good life skills has decreased over time in Kano. Girls are most likely to have good life skills in Lagos at both baseline and midline, and there has also been a large and significant increase in the percentage of girls with good life skills in Lagos.

At both baseline and midline, older girls are more likely to have good life skills compared to younger girls. The changes over time were small and not statistically significant across all of the age groups.

As was the case for ISG, OSG from extremely poor households are less likely to have good life skills compared to the overall average for OSG at both baseline and midline.

Table 41. Life skills amongst OSG in the intervention group (subgroup analysis)

Characteristics			Has good life skills		
	N at BL	N at ML	Baseline (%)	Midline (%)	Change since baseline (% point)
Average for ISG	265	265	66.42	67.55	1.13
State					
FCT	30	30	70	70	0
Kaduna	89	89	73	73	0
Kano	93	93	51.6	46.2	-5.4
Lagos	53	53	79.2	94.3	15.1**
Age (based on age at baseline)					
Age 17 – 18	79	77	51.9	51.9	0
Age 19 – 20	114	105	67.5	71.4	3.9
Age 21 – 23	72	83	80.6	77.1	-3.5
Other characteristics					
Has disability	6	5	83.3	60	-23.3
Married	91	103	70.3	63.1	-7.2
Orphan	84	105	64.3	67.6	3.3
Likely to be extremely poor	31	33	54.8	48.5	-6.3

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

4 Transition Outcome

One of the key focus areas of the ENGINE II is to support beneficiary girls to prepare for and successfully transition to the next phase of education, work or personal empowerment. The programme provides scholarships to facilitate the transition of girls into higher learning, supports the expansion of business ventures, and provides linkages to loans that support the growth and diversification of business. The programme also mobilises public and private actors to advocate for change to mitigate social and cultural barriers to transition faced by marginalised girls at the community and household levels. In this section we discuss the quantitative and qualitative findings from baseline and midline data on the transition of ISGs and OSGs. First, we provide the definition of transition used in the evaluation using the ENGINE II MEL framework and define the transition pathways for ISGs and OSGs. We then exhibit findings from the quantitative and qualitative surveys at baseline and midline, including results from the impact estimation and its comparison to the targets set at baseline. For ISGs and OSGs, we provide the transition pathways that girls have taken at midline for both groups of girls, by age. We then go on to explore potential barriers to successful transition that OSGs face. In the end, we review the targets that the project is expected to meet at endline next year.

Since the nature of the programme is different for ISGs and OSGs, it is important to understand the definition of transition with respect to both groups. This definition is discussed in detail below.

4.1 Defining transition

Table 42 presents the definition of transition used in this evaluation and provides the pathways between baseline and midline that are considered as successful or unsuccessful for ISGs and OSGs. ISGs will have transitioned successfully from baseline if they are promoted to the next grade at midline. If an ISG drops out of school or is repeating a grade, it is considered as an unsuccessful transition. A successful transition for an OSG will be if she is actively engaged in a decent and safe business or is in Technical and Vocational Education and Training (TVET). Re-enrolment into formal education is also considered as a pathway of successful transition for an OSG. However, due to lack of information on this at midline, we are unable to assess rates of re-enrolment among OSGs at midline[27]. As a result, being engaged in neither employment nor business at midline will be considered as an unsuccessful transition for an OSG.

Table 42: Transition pathways for ISGs and OSGs

Group tracked for transition	Successful Transition	Unsuccessful Transition
ISG (Aged 17 – 23 years at BL)	• In-school progression	• Drops out of school • Remains in same grade
OSG (Aged 17 – 23 years at BL)	• Into TVET • Into gainful employment • Increase in income • Re-enrolled into appropriate grade in secondary school (Ex-dropout) • Business diversification • Business expansion	• Remains out of school and no training • Remains out of school and no business

Before we present the results, it is important to take note of the group of girls that make up the transition cohort for ISGs and OSGs:

- **cross-sectional samples for ISGs**: these girls include the cross-section of ISGs interviewed at baseline and the cross-section interviewed at midline including those girls for whom phone interviews were conducted at midline if they could not be located;

[27] At baseline, re-enrolment is also not considered to be a part of the indicator since all sampled OSGs were out of school at the time of the baseline survey.

- **panel sample for OSGs**: these include all OSGs interviewed at both baseline and midline including those for whom phone interviews were conducted at midline if they could not be found.

4.1.1 Impact of ENGINE II on transition and performance against targets

In this section, we present the rates of successful transition at baseline and midline for the intervention and control group. This will be used to assess if the changes observed in transition at midline can be attributed to the ENGINE II programme.

Table 43 presents the impact estimates from the quantitative analysis for ISGs using the DID estimation technique.[28] This was then compared with the target set at baseline to assess the performance of the programme thus far. To meet the target, the change in the rate of successful transition in the intervention group from baseline would need to be higher than that in the control group by the target percentage point change.

For ISGs, we were unable to detect any impact of ENGINE II on transition. Even with a slight decline in the transition rate in both groups, the transition rates at baseline and midline are extremely high, as shown in Table 43. Existing high rates of successful transition limit the ability of the programme to generate impact on transition which might explain why the programme was unable to meet the target of 8 percentage points at midline.

Table 43: Impact of ENGINE II on transition and performance against target

	Baseline intervention (%)	Midline intervention (%)	Diff baseline to midline intervention (% point)_	Baseline control (%)	Midline control (%)	Diff baseline to midline control (% point)	Diff-in-diff (treatment control) unadjusted (% point)	Diff-in-diff (treatment control) adjusted (% point)	Baseline – Midline Target (% point)	% of target achieved
Transition ISG	96.1	91.5	-4.5***	94.2	92.6	-1.6	-2.9	-3.0	8	0

Asterisks indicate that differences are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1. Impact estimation results are based on a regression model controlling for age and state .

For OSGs, because of a change in question phrasing between baseline and midline, it is not possible to have an indicator for successful transition that is directly comparable between baseline and midline. The change in question phrasing had to be made to allow for meaningful and comparable data to be available at endline. Here, we present descriptively what the OSGs were doing at baseline and midline.

Between baseline and midline, there has been a large and significant decrease in the percentage of girls that are actively involved in business in the intervention group. This might be explained by some girls having re-enrolled into education at midline.[29] In the control group, there was a smaller significant decrease in the percentage of girls that are actively involved in business at midline compared to baseline.

In terms of vocational training, 42.5% of girls in the intervention group at midline reported that they had received vocational training in the last 12 months. This is higher than the percentage of girls in the control group (29.8%) who reported having received training in the last 12 months at midline. The findings on this indicator at midline are not comparable to those at baseline, since at baseline, girls were asked whether they had received vocational training in the last 3 years.

The availability of more comprehensive information at endline will allow us to provide a more accurate and complete picture of transition and the impact of the ENGINE II on transition of OSGs next year.

[28] Based on guidance provided by the FM for the impact estimation, the cross-sectional impact analysis of the ISG sample excludes girls from baseline intervention schools that were not retained in the midline sample because the school is no longer part of the programme. Control schools that are matched to these intervention schools are also excluded from the baseline sample.
[29] As explained above, information to assess this was not available at midline.

Table 44: Transition activities of OSGs at baseline and midline

	Baseline intervention (%)	Midline intervention (%)	Diff baseline to midline intervention (% point)	Baseline control (%)	Midline control (%)	Diff baseline to midline control (% point)
Actively involved in business	48.3	15.9	-32.4***	26.7	17.8	-8.9**
Received vocational training in the last 12 months		42.5			29.8	

Note: Girls are only considered to be successfully actively involved in business if they are at least 18 years old.

Given these results, it will be informative to explore the common transition pathways that have been taken by ISGs and OSGs since baseline. These are discussed in the sections that follow.

4.2 Transition pathways at midline for ISGs

To understand results from the impact estimation better, we outline the transition pathways that ISGs have taken since baseline according to the definition of transition discussed above. Table 45 and Table 46 present the percentage of ISGs who transitioned through each of the pathways – by age at baseline – using the cross-sectional samples for ISGs at midline including those for whom phone interviews were conducted at midline.

The rate of in-school progression is very high across both groups. The tables below demonstrate that 92% of ISGs in the intervention group and 93% in the control group were successfully promoted to the next grade between baseline and midline. A strong reason for high in-school progression is the fact that students are rarely required to repeat a grade even if their performance was very poor in the academic year under review. While grade repetition rates are extremely low, 7.2% of girls dropped out of school in the intervention group compared to a similar percentage in the control group.

Table 45: Transition outcome for ISG in the intervention group (midline cross-sectional)

		Successful transition	Unsuccessful transition		Successful transition rate
Age at baseline (midline)	Sample size	In-school progression	Remains in the same grade	Dropped out	
<=17 (<=18)	431	408 (94.7%)	5 (1.2%)	18 (4.2%)	408 (94.7%)
18 (19)	104	86 (82.7%)	2 (1.9%)	16 (15.0%)	86 (82.7%)
19 (20)	24	19 (79.2%)	0 (0.0%)	5 (20.8%)	19 (79.2%)
20 (21)	3	2 (66.7%)	0 (0.0%)	1 (33.3%)	2 (66.7%)
21 (22)	0	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
22 (23)	3	3 (100.0%)	0 (0.0%)	0 (0.0%)	3 (100.0%)
>=23 (>=24)	1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)
Overall	566	518 (91.5%)	7 (1.2%)	41 (7.2%)	518 (91.5%)

Table 46: Transition outcome for ISG in the comparison group (midline cross-sectional)

		Successful transition	Unsuccessful transition		Successful transition rate
Age at baseline (midline)	Sample size	In-school progression	Remains in the same grade	Dropped out	
<=17 (<=18)	451	429 (95.1%)	5 (1.1%)	17 (3.7%)	429 (95.1%)
18 (19)	80	63 (78.8%)	1 (1.3%)	16 (19.8%)	63 (78.8%)
19 (20)	15	12 (80.0%)	0 (0.0%)	3 (20.0%)	12 (80.0%)
20 (21)	6	6 (100.0%)	0 (0.0%)	0 (0.0%)	6 (100.0%)
21 (22)	2	2 (100.0%)	0 (0.0%)	0 (0.0%)	2 (100.0%)

22 (23)	5	5 (100.0%)	0 (0.0%)	0 (0.0%)	5 (100.0%)
>=23 (>=24)	8	8 (100.0%)	0 (0.0%)	0 (0.0%)	8 (100.0%)
Overall	567	525 (92.6%)	6 (1.1%)	36 (6.3%)	525 (92.6%)

4.2.1 Subject level performance ratings for transition

It was recommended at baseline that additional data on the performance of girls pertaining to core subjects – Mathematics and English Language – should be collected at subsequent evaluation points to corroborate the findings for transition. This is expected to inform on the proportion of girls that attained the required benchmark score to be promoted to the next grade in school.

Table 47 and Asterisks indicate that differences are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1

Table 48 present performance ratings of ISGs at midline for English Language and Mathematics, respectively. These results are limited to the midline cross-sectional sample of ISGs for whom information on performance scores was available in school and the overall survey was completed[30]. Therefore, the sample is slightly smaller than the complete midline cross-sectional sample.

Assuming that a 40% or higher score is suitable to be promoted to the next grade, 92% of ISGs scored a passing mark in English and 87% in Mathematics in the intervention group, as demonstrated in the tables below. These are higher than corresponding figures for the control group (86% and 81%)[31]. The rate of successful transition for both the intervention and control group is 92% implying that a higher fraction of students who scored passing marks might have been promoted in the intervention group compared to the control group. This sub-analysis provides a more objective comparison for performance-based transition between the intervention and control group as opposed to the mass promotion of students that is operational in most of the secondary schools in programme states.

Table 47: Performance in English Language in last academic year (midline cross-sectional)

Performance rating	Control	Intervention
Excellent/A (70% or more)	70 (14.9%)	54 (13.2%)
Very Good/B (60% - 69%)	82 (17.5%)	94 (22.9%) **
Good/C (50 - 59%)	128 (27.3%)	150 (36.6%) ***
Fair/D (40- 49%)	127 (27.1%)	80 (19.5%) ***
Poor/E (30 - 39%)	47 (10.0%)	16 (3.9%) ***
Very poor/F (29% or less)	15 (3.2%)	16 (3.9%)
Scores 40% or higher	404 (86.1%)	377 (92.0%) ***
Total sample size	469	410

Asterisks indicate that differences are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1

Table 48: Performance in Mathematics in last academic year (midline cross-sectional)

Performance rating	Control	Intervention
Excellent/A (70% or more)	38 (8.2%)	62 (14.7%) ***
Very Good/B (60% - 69%)	82 (17.7%)	97 (23.0%) *
Good/C (50 - 59%)	132 (28.6%)	135 (32.1%)
Fair/D (40- 49%)	124 (26.8%)	74 (17.6%) ***
Poor/E (30 - 39%)	56 (12.1%)	31 (7.4%) **
Very poor/F (29% or less)	30 (6.5%)	22 (5.2%)
Scores 40% or higher	373 (80.7%)	368 (87.4%) ***
Total sample size	462	421

[30] The sample for this analysis does not include ISGs for whom phone interviews were conducted.
[31] Both differences are statistically significant at the 1% level.

Asterisks indicate that differences are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1

4.3 Transition pathways at midline for OSGs

Error! Reference source not found. presents the percentage of OSGs who transitioned through each pathway at midline – by age at baseline – using the panel sample.

Table 49: Transition outcome for OSG by age at midline (panel sample)

	Intervention group			Control group		
Age at baseline (midline)	Sample size	Actively involved in business	Received vocational training in last 12 months	Sample size	Actively involved in business	Received vocational training in last 12 months
<=17 (<=18)	39	4 (10.3%)	11 (28.9%)	55	8 (14.5%)	22 (40.0%)
18 (19)	49	7 (14.3%)	23 (46.9%)	45	4 (8.9%)	18 (40.0%)
19 (20)	68	17 (25.0%)	34 (51.5%)	47	11 (23.4%)	10 (21.7%)
20 (21)	44	8 (18.2%)	21 (48.8%)	27	6 (22.2%)	6 (22.2%)
21 (22)	40	3 (7.5%)	12 (30.0%)	21	4 (19.0%)	6 (28.6%)
22 (23)	26	3 (11.5%)	8 (30.8%)	16	5 (31.3%)	4 (25.0%)
>=23 (>=24)	24	4 (16.7%)	12 (52.2%)	25	4 (16.0%)	4 (16.0%)
Overall	290	46 (15.9%)	121 (42.5%)	236	42 (17.8%)	70 (29.8%)

Given the short length of phone interviews, we were unable to collect enough information to assess each of the transition pathways for OSGs for whom phone interviews were conducted. Therefore, we exclude them from sample used to present findings on the pathways for those actively involved in business below. Out of OSGs who were actively involved in business at midline, 37% of girls in the intervention group reported that their income had increased as a result of business of training they are involved in, compared to 40.5% of girls in the control group. A small percentage of those involved in business reported that they had diversified or expanded their business.

Table 50: Transition pathways for OSGs actively involved in business at midline

	Intervention group	Control group
Total actively involved in business	46	42
Increase in income	17 (37.0%)	17 (40.5%)
Business diversification	8 (17.4%)	3 (7.1%)
Business expansion	1 (2.2%)	3 (7.1%)

Note: This information is available only for girls who were interviewed face to face and the number of girls actively involved in business therefore differs to the number presented in the table above (which also included the transition interviews)

The qualitative research provides evidence to support an understanding of how girls have transitioned through different pathways. Girls that experienced expansion since they started business ventures mentioned the different types of businesses they are involved in and how their incomes have improved since baseline. Some girls have been able to take up loans and pay back to expand their businesses. Illustrative of the experience of some girl supported by ENGINE II, an employer of an OSG attested to the fact that her level of confidence had increased compared to when she initially started attending the safe spaces. She further added that when the girl initially started, she was afraid of making cuts on fabrics to make out styles and that her interaction with colleagues was very poor. Currently, however, she added that the girl has greatly improved to the point that she teaches fabric design and style creation.

"My tailoring business has grown over time as I used to sew clothes for my family members only but now, I make clothes for everyone".

Out of School Girl, Kano.

While quantitative data was unable to capture re-enrolment, an interview with the Head of the Centre for Literacy and Mass Education as part of the qualitative data revealed that the ENGINE II programme has enabled marginalized girls to go back to school and helped others register and write Senior Secondary School Final Examinations such as NECO and WAEC Examination which has enabled them transition to higher institutions. In addition, National Youth Service Corps at the Federal level in partnership with ENGINE has been able to initiate a NYSC ENGINE Scholarship Programme for Marginalized Girls which has 144 beneficiaries on the scheme so far. These beneficiaries are being mentored and monitored by Corps members to support their transition through key education and economic opportunities. There are NYSC models spread across about 17 schools in the FCT impacting more marginalized girls. The NYSC models also operate a social media page where past and present ENGINE models are connected. Recently, through this network, a fund of 60,000 naira was raised to support a girl through school who had dropped out of school because her parents could not afford her school fees. Despite high rates of successful transition and programme efforts to facilitate it, certain factors might still pose as barriers to transition. These are discussed next.

4.4 Sub-group analysis

Since the transition rate of ISGs is extremely high, a full and detailed analysis of the transition rate across various sub-groups is not possible given the very small sample size of girls who did not transition successfully. Instead, Table 51 below explore a small set of characteristics of girls who have transitioned unsuccessfully[32].

As Table 51 shows, all ISGs from Lagos transitioned successfully while unsuccessful transition was most common in Kaduna with 71% of ISGs in Kaduna transitioning unsuccessfully at midline in the intervention group. Unsuccessful transition was also shown to become more common the higher the grade the girl was in at baseline. As demonstrated in Table 51, 73% of ISGs in SS2 failed to transition compared to 2.1% of ISGs in JSS3. Given the small sample sizes presented in Table 51, results should be treated with caution..

Table 51 Characteristics of ISGs who transitioned unsuccessfully

Characteristics	Baseline (n=14) (%)	Midline (n=48) (%)	Change in transition rate since baseline) (% point)
State			
FCT	28.6	8.3	-20.3
Kaduna	57.1	70.8	13.7
Kano	14.3	20.8	6.5
Lagos	0.0	0.0	0.0
Grade at baseline			
JSS3	7.1	2.1	-5.0
SS1	35.7	25.0	-10.7
SS2	57.1	72.9	15.8

Asterisks indicate that differences are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1

4.5 Factors affecting transition

In addition to some of the barriers previously highlighted in subsection 4.4, in this section, more insights are discussed in relation to factors that affected the transition outcomes recorded among ISGs and OSGs supported by the programme.

Programme implementation delays

Some programme activities targeted at OSGs had not yet been implemented at the time of the midline round of research. This includes the expected partnership with the MAFITA programme, for which a Memorandum of Understanding (MoU) has only recently been signed[33]. As of the midline round of research only the assessment of matching OSG interest to potential economic opportunities had been complemented, and the linking of OSGs to vocational opportunities had not yet been completed.

In addition, the financial and business education manual designed to support the OSG learning sessions had only been completed in the implementation quarter prior to the midline round of research. This short window is likely to have diminished the ability of the evaluation to detect attributable impact of ENGINE II on the transition rates of OSGs.

As such it is too early at the midline round of research to make definitive statements on the efficacy and impact of the full range of intended interventions designed in support of the transition of OSGs to decent economic opportunities.

Poverty

[32] This sample includes all girls who transitioned unsuccessfully including those interviewed over the phone.
[33] During Q8 of the implementation cycle

The qualitative research conducted during the midline study highlighted that poverty was a particular challenge for ISGs. Poverty manifested itself in a number of ways that meant that it was commonly reported by ISG respondents as a significant barrier to transition. In some cases, this was driven by the inability of parents to afford the direct costs of education.

'Some parents cannot afford to send them to school, some students are the bread-winners for their family, some parents don't really care whether their children comes to school regularly or not'. **ISG respondent, Ungogo, Kano**

In other cases, either opportunity cost of education was high, requiring ISGs to also engage in economic activities in support of their household, including the requirement to engage in hawking in the early hours before school time.

'Girls have to sell bean cake and pap before coming to school'. **ISG teacher, Kaduna**

This sense of obligation to support the household was also noted by OSG girls, particularly those who came from households who derived their main income source from agriculture. This had an impact on the attendance of OSGs at learning centres during intensive periods such as harvest.

'As for farming there is nothing you can do other than go to the farm, because every farming activity has a timeline that cannot be postponed, but you can always catch up at school'. **OSG, Kaduna**

'Some of my students are farmers and during farming season, they will not leave their work or sales of their produce to come to school '. **OSG teacher, FCT, Abuja.**

Mentoring and intensive support

The qualitative research conducted at midline highlighted the importance of mentoring to the ENGINE II approach, which has contributed to more intensive engagement with targeted girls.

'There is a mentoring programme in which each student has a mentor teacher with whom they talk on a regular basis on issues such as career choices, health or personal challenges. There are also extra-curricular classes in Maths and English, life skills to teach about confidence which will incorporate boys as well as stipends which will be paid in agreement with the LCF'. **SBMC, Jikwoyi, FCT**

Respondents to the qualitative research noted that mentoring in combination with more intensive engagement had made an appreciable difference in the experience of some girls. This included both the ability of girls to understand and retain lessons provided to them, but was also a factor in decisions about whether or not to drop out of school.

'In the past I did not understand because there are many people in class but now that the class is shared into two classes and the class is more organised now, I want to further my education' **ISG, Dutse Alhaji, Abuja**

'Some of the girls that almost dropped out of school have decided to stay and some are more determined to finish school. We understand our lessons better and want to stay and move to the next grade'. **ISG, Jikwoyi, FCT**

Implementation of other programmes

Furthermore, there were reports of some similar or new programmes that are competing for the attention and motivation of programme beneficiaries across the implementation states. For instance, a different project in Kaduna state was reported to be offering incentives to some non-programme beneficiaries and this led to ENGINE II girls placing similar demands on the programme and its implementing partners. During an interview with a gatekeeper in FCT, it was mentioned that philanthropists, government ministries and NGOs have been providing support to the girls in their community as a means of empowering them. The Ministry of Agriculture was also said to have donated gas cylinders to OSGs who are receiving training on catering services. A philanthropist was also mentioned to have given out sewing materials to girls being trained on tailoring skills. Another community was reported to have distributed seeds and pesticides to female entrepreneurs that were willing to go into farming business.

Marriage and migration

Marriage and migration was another challenge that affected the results observed at midline as reported in the programme reports and key informant interviews conducted with learning centre facilitators. This is mostly applicable to older girls who are of age and get to marry, a group that is highly represented in the overall programme beneficiaries. After marriage, the power to make important life decisions could often change from the girl and/or her households to the spouse who may have limited understanding or approve of his bride to participation in the ENGINE II programme. The potential effect of marriage on transition rates may become more pronounced by endline as girls are one year older and more girls who have been supported by the programme may find themselves in the position to get married and/or relocate outside the intervention areas.

5 Sustainability Outcome

5.1 Background

ENGINE II has incorporated a variety of activities to support the sustainability of the project and it is worth noting that it builds on the fundamental work carried out under ENGINE I. The ENGINE II approach to sustainability consists of engagement with key stakeholders at each of three levels: community, school, and system. It also involves facilitating an enabling environment for girls to thrive in across these three levels.

The ENGINE II approach to sustainability is heavily focussed at the school and community level. The system level focus was also observed to an extent. At the school level, ENGINE II continues to reinforce positive school leadership and deepen understanding of the value of education for all; including amongst parents and community members. This includes the identification of and investment in ENGINE teachers who are expected to take on a lead role in the adoption of a learner-centred methodology of teaching and serve as a catalytic support in the diffusion of these best practices and methods to other teachers via refresher trainings, peer mentoring and networking which would transcend beyond the life of the project.

At the community level, ENGINE II provides significant investment through training, sensitisation and mentoring of members of the School/Community Based Management Committee. This has led to the development and implementation of the child and vulnerable adult protection protocol (CVAP), a policy document that is also being adopted by different state governments. The CVAP document includes strategies that could address barriers to education and economic empowerment of girls. It is expected that these efforts will support a gradual and continued change in the attitudes of communities and parents toward schooling and what happens in schools, as well as provide lasting support to schools and pressure on schools to perform.

ENGINE II also recognises the need to support change at the grassroots level with government mainstreaming to achieve systemic change and has committed to generating high-level commitment, support and grow buy-in from government partners, as demonstrated in some cases through the signing of a Memorandum of Understanding with National Youth Service Corps (NYSC).

5.2 Assessment approach

The approach to the assessment of the sustainability of ENGINE II interventions is grounded in the guidance provided by GEC-T, as captured by the GEC-T sustainability scorecard reported in Table 52. This provides guidance for the criteria to achieve four standards of sustainability at each of the three levels of the education system: community, school, and systems. These four standards are:

- **Latent**: *develop knowledge and change in attitude*
- **Emerging:** *changes in behaviour*
- **Becoming established:** *critical mass behaviour change*
- **Established:** *changes are institutionalised*

Progressing through standards of sustainability reflects a continuum of ever-expanding understanding, buy-in, and ownership of key stakeholders at each level of the education system. To achieve higher levels of sustainability it is expected that key stakeholders cannot only understand and articulate the interventions supported by ENGINE II, but have begun to adopt and support the implementation of these activities.

Table 52: GEC-T sustainability scorecard guidance

Rating	Community level	School level	Systems level
4. Established ***Changes are institutionalised***	The specific change in practice and attitude is now well established. Communities demonstrate independent ability to act without support from project, are able to further develop existing and new	The specific change in practice and attitude is now well established with school-level systems to support this; schools demonstrate independent ability to act without support from project, have	An approach or model is shown to work at scale and is being adopted in national policy and budget as appropriate, and/or incorporated into key delivery systems (e.g. for teacher training, curriculum, school

Rating	Community level	School level	Systems level
	initiatives, and secure funding to respond to their local needs to sustain and build on the changes that have taken place	allocated and mobilised financial and other resources and are able to develop further initiatives to respond to local needs to sustain and build on the changes that have taken place	management, etc.). There is an established track record of financial support
3. Becoming established ***Critical mass behaviour change***	Key community leaders and a critical mass of stakeholders are convinced of the benefits and have the capacity to lead and deliver changed practice independently. Financial and other resources are increasingly being mobilised locally. Project staffing and resources still play role but there is potential for this to be phased out	Head teacher and critical mass of school staff and stakeholders convinced of the benefits and have the capacity to deliver changed practice independently. To the extent possible, existing financial and other resources are being used or mobilised. Project staffing and resources still play role but there is potential for this be phased out	Authorities demonstrate active use of project evidence and uptake of specific aspects of the project approach, and have a growing capacity to support girls' education locally or beyond. This may include limited support to a delivery model without fully adopting within a national system. There is an increase in allocation of resources and evidence of planning for required resource to upscale
2. Emerging ***Changes in behaviour***	There is evidence of improved practice and support for girls' education in specific ways being targeted by project. Change is not universally accepted among targeted stakeholders, but support is extending. Project staff and resources play key role in driving change, although there are activities in place to mobilise funding/other resources	There is evidence of improved support for girls' education in classroom practice, teacher management, and school management being targeted by project. The improved practice is not universal but is extending. Project staff and resources play key role in driving change. School leaders understand resource implications and mobilising funds locally	There is evidence of improved capacity of local officials to support girls' education through existing functions, adopting new approaches. Examples of support to project schools are being established. Government at local and/or national level has engaged with and understood evidence from the project. Resource implications are being made clear
1. Latent ***Develop knowledge and change in attitude***	Community stakeholders (including parents, community leaders, and religious leaders) are developing knowledge and understanding and demonstrate some change in attitude towards girls' education. Appropriate structures are being put in place at community level, and there is some level of willing engagement and/or participation from the community	School leadership, teachers, and other stakeholders are developing knowledge and understanding and demonstrate some change in attitude towards girls' education in general and towards specific teaching practice and approaches, and the way schools are managed	Local, district, and national officials are involved in delivery and/or monitoring; developing knowledge and showing change in attitude towards girls' education and project focus areas. Project aligns with specific policy, systems and departments. Project's evidence is being shared with relevant stakeholders, including broader networks of organisations

5.3 Community level

Evidence generated by the midline round of research strongly indicates an improvement in the sustainability of community level activities from a score of 1 ('latent' sustainability) to a score of 3 ('becoming established' sustainability). In part this is driven by efforts to engage SBMCs or PTAs, which are now present in all schools and who play an important role in sensitising communities to ENGINE II as well as advocating for programme activities. In more than half of intervention schools (54%) school development plans have been developed and are being implemented in support of addressing barriers faced by girls as well as supporting the development of infrastructure. In addition, Community Action Committees (CAC) are, with the exception of Kaduna state, more common in programme areas which play a key role in liaising with communities. Evidence produced by the midline, in general, demonstrates that more communities are actively taking ownership of ENGINE II activities and increasingly taking a role in leading the implementation.

Faith and traditional leaders which are part of the SBMC have shown commitment and are leading in advocating for girls' educations. In the SBMC survey, 60% of the SBMCs in areas supported by ENGINE II reported that they have activities to continuously advocate for girls' education.

In turn this has supported the buy-in of other community members into interventions supported by ENGINE II. Evidence generated by the midline qualitative research suggests that there is an increasing interest among community members on how parents and caregivers embrace and engage in actions related to learning and safety. More stakeholders (community chiefs and parents) now identify strongly with formal education, particularly for girls. Further results revealed that stakeholders' attendance at PTA meetings is another significant form of parents' participation in school management. The meetings had been a mechanism for informing and consulting with parents concerning support to their children's education to get full support for girls who take extra classes or who must attend school during the rainy season rather than have them go to the farm. SBMCs have taken initiative of having parents visit their wards in the school so they can have an insight into how they are being taught in the school. They have also been instrumental in the reduction of street hawking by girls after school.

Across the majority of schools and communities, especially in FCT and Kaduna state, there have been several community level activities advocating for girls' education with the process being led and driven by the community's members themselves. This appears to have translated into action in support of continued education for girls' education for ISGs. Teenagers who become pregnant are supported by community members to reintegrate into school or business after delivery, members of the SBMC carry out routine visits to such girls in their homes to check on their wellbeing and provide encouragement for the possibility to continue schooling afterwards.

'As the head, I used to organize community meeting every month to identify children that stopped going to school because of financial problem, lack of writing materials, or because of uniform, this for both boys and girls. Our children both attend Koranic and conventional school. The committee of the elders usually contributes money and send those children back to school, I also encourage parents constantly by talking to them and reminding them of the importance of education and why they all need to support their children and send them to school'. **Community leader, Gobirawa Dala`, Kano**

'Even in Islam, the girl child is like the mother of the community therefore when you educate one girl child it is like you have educated the whole community. Educating the girl is like educating the community that is why we ensure all our girls are in school'. **Community leader, Kongon kaya Kaduna state.**

"The most observable change is the near disappearance of hawking girls on the streets of the neighbourhood which I confidently attribute to the presence of the ENGINE programme and its efforts in redirecting the girls' focus to education and vocational training" .**Imam Odo-Obara, Lagos**

In addition, the qualitative research provides strong evidence of the engagement of ENGINE II communities in advocating for OSGs to go back to school or to become established in business or undergo vocational training and be skilled in a trade. The qualitative research showed that the communities have become more supportive of OSGs to nurture and excel in their businesses. They are also able to learn basic functional literacy and numeracy skills through the adult learning /learning centre centres which the ENGINE II programme has set up or collaborated with the State Agencies for Mass Education to establish in the communities. Although, some of the OSG had expressed mixed reactions towards their willingness to return and continue their formal education, there were some others who are quite optimistic and continue to nurse the idea of going back to a formal school. They generally wanted to be better equipped and prepare themselves for job opportunities whilst acquiring more knowledge.

"I want to go back to school to acquire more financial management skills which is very necessary for the vocational skills I am learning". **OSG Respondent, Lagos**

"I have no interest to go back to school, I am very comfortable with my fashion designing vocation and would not like to break off from the business in order to continue schooling". **OSG Respondent, Lagos**

"Many of the girls who had dropped out of school at one point in time have made decisions to return back to school. These girls are married with children but that did not stop them from going back to school. He also said most of the girls also on their own decided to start businesses and acquire skills'. **Gate Keeper AMAC**

The qualitative research also suggests that a significant number of SBMC/PTA are leading initiatives that could stimulate the girls to become economically empowered even while getting some education, be it formal or informal. Some have gone as far as implementing economic empowerment programmes for the girls in their jurisdiction. A case in point is Lagos state, where one of the Community Development Agency (CDA) has been providing support to vulnerable persons so they can learn a skill, facilitate work placement opportunities for them and provide financial support and motivation to OSG when necessary, with ENGINE II girls being seen as prioritized beneficiaries of government-sponsored empowerment programmes in the state. In Kano state, one of the gatekeepers at Ungongo LGA confirmed he has observed significant improvement, especially among the girls that received the ENGINE II incentive/scholarship. The ENGINE II girls are known to be hardworking, self-reliant and independent. Oftentimes, they have been seen to set up small businesses which they use to support themselves and their households after they have been exposed to different vocational skills support programmes. Specifically, he cited two girls in his community that had received the COCA-COLA business support on the ENGINE programme within the last two years, saying both are still in business and thriving daily.

These findings are indicative that the various project intervention like trainings for SBMC/CAC members, sensitization and awareness campaigns at different levels and the increased engagement of the CAC and SBMC by the programme at the grassroots level has somewhat influenced their commitment to the programme and garnered more support for girl-child education.

Findings from the midline household survey also demonstrate increased engagement of parents and caregivers, providing evidence that parents are taking their own initiatives within the household to support girls' rights to education. For example, a very high proportion of parents (92%) report that investment in girls' education is worthwhile, even when funds are limited. Furthermore, 91% of parents responded that girls are just as likely to utilise their education as boys.

With regards to child protection and gender issues at the community level, there is increased awareness, knowledge and activities geared towards establishing effective child protection initiative. 62% of SBMCs in the intervention clusters have developed and enforce the use of code of conducts and about 65% have established or strengthened the protocols reporting harassment of abuse. SBMC, PTA and community leaders have **demonstrated a change of perception and behaviour coupled with the ability to independently develop or build on the existing initiatives and raise fund within their communities to advocate for girl's education**. The community leaders and SBMC are convinced of the benefit of **Girl's education, girl's rights, child protection and gender rights and are showing capacity to lead and advocate on it**.

Table 53: Sustainability scorecard at the community level

Community Level (average score):	Baseline	Midline	Data Sources
Indicator 1: Faith and traditional leaders in ENGINE II communities advocate for girls' education, integrating key gender findings from the project.	Score 0	Score 2	SBMC Survey KII gatekeeper SBMC FGD
Indicator 2 – Girls' parents and primary gatekeepers in ENGINE II communities take initiatives within the household or community to support girls' rights to education.	Score 2	Score 3	SBMC Survey KII gatekeeper

Community Level (average score):	Baseline	Midline	Data Sources
			SBMC FGD Household survey
Indicator 3 Gatekeepers and community members in ENGINE II communities advocate for OSGs to go back to school, leveraging on existing AME structures or other formal education systems.	Score 1	Score 3	SBMC FGD Household survey KII with girl's boss
Indicator 4 Community members and gatekeepers in ENGINE II communities understand child protection and gender issues and are taking initiatives to address these issues at the community level.	Score 1	Score 2	SBMC Survey KII gatekeeper SBMC FGD
Overall	1	3	

5.4 School level

At the school level evidence generated by the midline evaluation suggests only moderate improvement in the overall level of sustainability from a baseline level of negligible sustainability to a 'latent' level of sustainability (a score of 1).

The most progress has been made on the adoption of a Code of Conduct within schools that incorporates gender and protection issues. Evidence from the school level survey suggests that a majority of schools supported by the ENGINE II programme have developed and enforced a code of conduct that incorporates gender and child protection issues. This is supported both by the school respondents (head teacher or equivalent) as well as the SBMC respondents, which in more than 60% of cases both reported the presence of a code of conduct. In support of this a majority of ENGINE II supported schools (58%) had also by the midline round of research established protocols for reporting harassment or abuse, with almost 40% of schools also having established a school counselling unit.

In support of the adoption and sustainability of the ENGINE learner centred teaching methodology ENGINE II has adopted a trainer-of-trainer model. This involved an initial master training of trainers workshop in Q6 of implementation (i.e. July – September 2018) followed by an initial training of teachers in Q7 of implementation (i.e. October – December 2019). Since then 4 refresher training sessions have been conducted, one in each of the implementation states in Q8 of implementation (i.e. January to March 2019). Crucially, from a sustainability perspective, these refresher trainings were delivered by master trainers and supported by Mercy Corps project staff. In addition, 75 'Super' Learning Centre Facilitators (LCFs) have been identified to provide cluster level support to other LCFs in their jurisdiction.

Whilst this demonstrates buy-in from schools, teachers and LCFs the evidence generated by the midline round of evaluation suggests that this has yet to make a meaningful difference to the ability of teachers and LCFs to adopt learning centred teaching practices. The midline evaluation assessed the teaching practice of both teachers and LCFs using the Principles of Adult Learning Scale (PALS), and found no evidence of shift away from teacher centred teaching to learner centred teaching between baseline and midline. As such, the evaluation finds only a moderate improvement in the sustainability in terms to a 'latent' level, is found in terms of the adoption of learner centred teaching methodology.

Finally, this evaluation finds no evidence at this stage that non-project schools have replicated the ENGINE II supported learner centred teaching methodology. As such sustainability against this indicator is scored as negligible (a score of 0).

Table 54: Sustainability scorecard at the school level

School Level (average score)	Baseline	Midline	Data Sources
Indicator 1:	Score 1	Score 2	School survey SBMC survey

ENGINE II schools update/establish Code of Conduct incorporating gender and protection issues			
Indicator 2 Project schools adapt ENGINE learner centred teaching methodology	Score 0	Score 1	School survey Teacher interview KII teacher
Indicator 3 Non-project schools replicate ENGINE learner-centred teaching methodology.	Score 0	Score 0	School survey SBMC survey
Overall	0	1	

5.5 System level

Evidence generated by the midline round of research indicates that progress has been made by ENGINE II in generating system level sustainability for the programme, moving from a 'latent' level (score of 1) at baseline to an 'becoming established level of sustainability at midline (score of 3) overall. In general, this is demonstrated by the active engagement of systems level stakeholders in the project, not only in terms of being receptive to the advocacy and sensitisation efforts of ENIGNE II, but also in terms the adoption of various ENGINE II approaches and the commitment of resources.

The midline research finds evidence that in all 4 states where ENGINE II is implemented that NYSC community development service have adopted the ENGINE methodology for their NYSC corps members, though it is noted that there is still some lack of clarity about their key roles and responsibilities. Nonetheless, the qualitative research conducted at midline indicates that state partners have been actively engaged in the support of NYSC corps members to initiate activities in support of marginalised girls.

'In collaboration with ENGINE, we decided to take a bold step by doing a scholarship and so far, we have been able to sponsor 144 girls throughout secondary school education. Also, ENGINE through the NYSC (ENGINE models) has spread to 17 schools in the FCT currently, impacting more marginalized girls'. **NYSC Corps Member KII Respondent, FCT**

In addition, the NYSC ENGINE II programme focal person highlighted a number of steps that have been taken to address gender discrimination in schools. This included NYSC corps members who are ENGINE role models actively engaging with beneficiary girls to support an understanding of their rights as well as to encourage them to report instances of gender discrimination or abuse. It was also reported that gender and gender discrimination forms part of the curriculum taught to girls in their centres, which includes topics on gendered violence, sexual abuse, early marriage and access to education or opportunities for further study.

The midline round of research also finds evidence of progress being made on the adoption of the ENGINE II Child and Vulnerable Adult Protection (CVAP) Referral Protocol, as the standard for addressing issues of abuse. The most progress had been made in Lagos, Kano and Kaduna, each of which have now adopted the CVAP protocol and identified focal persons to manage the protocols. The implementation of these the CVAP protocol in practice is still in the early stages. For example, in Kaduna state they are still in process of developing the reporting formats and mechanisms to best support disadvantaged and vulnerable children. In FCT the department of education has not yet approved the ENGINE II CVAP protocol, although there is an existing protocol in place that was designed before ENGINE had begun programming.

'ENGINE has shared the protocol with us but the authorities in the education secretariat/secretary of education has to approve it first, however it has not been approved though we have an existing document being implemented before ENGINE came but ENGINE has enhanced the document.' **KII FCT System Level Respondent**

In order to support the awareness of state level government officials of the key barriers to girls education and economic empowerment. ENGINE has a group of stakeholders called the **State Advisory Group (SAG)** that serve as the channel through which the child protection issues can be addressed at all levels. This has translated into access at the highest levels of state government. For example, SAG members recently conducted an advocacy visit with the Commissioner of Justice in Kano State to discuss programme supported action on child protection rights. A child protection bill was at the time of visit in the state assembly for ratification.

'The state also has a 12-year free education program for the girl child because one of the issues is poverty and when there are little resources in the family, parents will not send the girls to school. We are also working to abolish hidden charges that some school charge as they are not approved by the state. When the students are charged, and the parents cannot pay these it hinders them from coming to school and most of these charges are not authorized by the government. **Kaduna State Ministry, KII Respondent.**

As evidence of the engagement of state level education officers in the programme, ENGINE II has recently trained 20 EMIS desk officers in Kano and Lagos, to support the monitoring of ENGINE II activities. It was felt that this has supported the integration of state partners into programme supported activities.

Table 55: Sustainability scorecard at the system level

System Level (average score)	Baseline	Midline	Data Sources
Indicator 1: NYSC community development service adopts ENGINE methodology for NYSC corps members across 4 states in Nigeria	Score 1	Score 2	Program report KII NYSC KII State stakeholder
Indicator 2 ENGINE II Child and Vulnerable Adult Protection Referral Protocol approved and adapted by 3 State Governments as the standard for reporting and addressing issues of abuse in the state.	Score 1	Score 2	Program report KII NYSC KII State stakeholder
Indicator 3 1 Federal and 2 State Governments recognizes ENGINE's contribution towards the education and economic empowerment of marginalized girls in Nigeria	Score 1	Score 3	Program report KII NYSC KII State stakeholder
Indicator 4 3 State Governments are aware on the key barriers to girls' education and economic empowerment and are taking supportive actions.	Score 1	Score 3	Program report KII NYSC KII State stakeholder
Overall	1	3	

Table 56: Changes needed for sustainability

	Community	School	System
Change: what change should happen by the end of the implementation period?	Leave behind a secure and organised community and social network on CVAP, school safety and community protection.	Build a network of teachers with capacity to deliver LCTM and school leadership promoting improved safeguarding practices.	ENGINE II models and best practices embedded in partner government systems and structures (SMoE/AME, NYSC, Ministry of Women Affairs etc

Activities: What activities are aimed at this change?	- Training of gender champions to address inequalities and promote inclusion across communities - State and community recognition of gender champions - Link gender Champions to CSOs, media and law enforcement partners. - Share all IEC materials (GESI flash cards, information brochure, CVAP manuals and referral systems.	- Continuous capacity building for G&Cs to manage reporting and case management - Increased awareness on safeguarding processes to create transparency and confidentiality. - Meeting with school services department to review ENGINE II focal person responsibilities to align with improved knowledge and capacities. - Meetings with G/C Managers to expand G/C roles to include oversight for CVAP. - Meetings with Head of Academics and school services on allocating time for CVAP in the school time tables. - Negotiate budget realignment to reflect funding for key thematic areas	- Setup meetings with commissioners, Permanent Secretary, School services, to negotiate alignment of roles and responsibilities in line with ENGINE II best practices. - Ensure seculars are forwarded to schools on use of CVAP manuals for gender assemblies / general assemblies. - Update State G/C training and and orientation manuals to include new CVAP roles for G/Cs - Meeting with Quality Assurance department to recognise CVAP as part of minimum standards for school functionality. - Handover list of best master trainers and qualified trainers to the department of schools as resource base for Teacher training, CVAP, Financial Education and Life skills.
Stakeholders: Who are the relevant stakeholders?	- Gender champions - Community Leaders - Trained community based facilitators - Girls	- Head Teachers/principals - School Based Management Committees - Master Trainers - Trained Teachers - Girls	- Government partners at LGA/State level

Factors: what factors are hindering or helping achieve changes? Think of people, systems, social norms etc.	- Continued motivation of gender champions to support protection work across communities - Continued buy-in of community leadership to provide an eco-system of support for marginalized girls - Addressing negative social norms such as male preference, child marriage, unequal burden of work among boys and girls that creates inequalities across communities.	. - Cascading LCTM to non-ENGINE teachers and schools. - Continuous monitoring of teachers' delivery for quality assurance - Cluster level teachers training/peer mentoring - Assessments - Leveraging free period and gender assemblies for targeted intervention in schools.	- Partner agencies motivation to replicate ENGINE's model and interventions - Allocation of budget/ availability of funds assigned to intervention - Changes in personal engaged not resulting in changes of agency's commitment. - Policies shift and implementation in favour of girls' education.

6 Key Intermediate Outcome Findings

This section presents the key findings on the Intermediate Outcome (IO) indicators: attendance and economic empowerment. For each IO, we begin by briefly describing how ENGINE II intends to achieve change in the IO.

6.1 Attendance outcome

Improved attendance in school for ISGs and in learning centres for OSGs is a key intermediate outcome of the ENGINE programme. Improved attendance is an important step to improve the learning outcomes of beneficiaries in the programme as it is less likely that students fall behind if they attend school more regularly.

The strategy for increasing attendance and retention of beneficiaries in the programme at their current education point, and as they transition to new classes, schools, or learning environments during the project is multi-fold. The programme is designed to:

- Build girls' motivation to attend school through mentors, peer support and positive role models;
- Enable girls' attendance through specific steps which address attendance barriers e.g. scholarships to alleviate financial constraints, transforming attitudes of gatekeepers, etc.;
- Support school and state governance in using and maintaining the management information systems (MIS) for attendance;
- Encourage retention by schools actively reaching out to marginalised girls as soon as possible in the drop out process.

A MIS is in place that keeps the LCFs and girl ambassadors aware of the regular attendance of their cohorts. Reports on attendance are also shared with the local government education authority as well as the implementation team. That way, when it is observed that someone has not been participating in the sessions or attending school regularly, they can follow up with the girls at their households to gain a clearer understanding of that particular girl's situation. Doing this has better informed the programme about issues of relocation and early marriage that have persistently affected the programme beneficiaries and impacted girls' attendance rates.

In this section of the midline report we present findings from both quantitative and qualitative sources gathered at baseline and midline. At midline, quantitative data on school and learning space attendance was gathered in the girl questionnaire and household questionnaire.

Link to Outcomes

The attendance intermediate outcome seeks to measure the number of marginalised girls who record improved attendance at learning centres and in classrooms. The programme links this intermediate outcome to Outcome 1, learning, and Outcome 2, transition. Learning outcomes can be improved for girls who attend school and the learning spaces more regularly. Similarly, girls who attend school and learning spaces regularly are expected to learn the necessary skills to progress through life successfully.

Tools for Measurement

Attendance indicators report attendance at school (for ISG) and attendance at the learning centres (for both ISG and OSG).

To measure attendance at school for ISG, girls were asked how many days they had been absent in the past month and how many days they had been absent in the past 5 days. There are two important points to bear in mind:

- In the baseline report, and as currently defined in the Logframe, the attendance of girls over the past month was used as the main indicator of attendance. A new attendance tool was introduced at midline, which collects attendance data from school records for the past 5 days – this data from midline is not presented here but will be used at endline for the midline-endline comparison. In addition, it is likely that girls' recall over the last 5 days is more accurate than their recall over the last month. For these reasons, we present attendance rates in the last month and over the last 5 days in the first section of this chapter, but only report on attendance over the last 5 days in the remainder of the chapter.
- Throughout the chapter, we report on two different thresholds for attendance. Firstly, we report the percentage of girls who attend school at least 75% of the time, in line with the definition of the current Logframe indicator. Secondly, we report the percentage of girls who attend school 100% of the time (over the period in question), which is in line with the indicator that was reported in the baseline report. Attendance rates at the 75% thresholds are already very high, so the addition of the 100% threshold provides more nuance to the analysis.

To measure attendance at the learning centres, learning centre attendance records were used. This attendance measure was introduced at midline because the learning centres were not yet operational at baseline, and there is therefore no comparable baseline measure.

Sampling

The questionnaire was administered to 13 randomly selected ISGs who were enrolled into the study. They were identified as ENGINE girls by the LSCs or school principals in intervention schools.

The 13 in-school girls, comprising of 'existing' girls sampled from baseline and 'top-up' girls that were added at midline to boost the sample size and minimize the effect of attrition. The 'top-up' girls that were newly added were also screened for their eligibility following the set marginalization criteria as earlier discussed in section 3 of this report. The same consideration was given to those in the control schools also, with the main difference being their non-exposure to the ENGINE II programme.

6.1.1 Key findings against the Logframe indicator

Table 57 shows the attendance of ISG in the intervention and control groups over the past month and over the past 5 days using a threshold of 75% attendance and of 100% attendance. The majority of girls (95% in the intervention group at midline) reported that they have been present in school on at least 75% of days over the last month. On the other hand, a much lower proportion of girls (57% in the intervention group at midline) reported that they were present on all days in the last month.

Over the last 5 days, 92% of girls reported that they were present at least 75% of the time at midline, and 86% of girls reported that they were present 100% of the time. There are no significant changes on any of the attendance indicators between baseline and midline.

Table 57: Attendance indicators over the past month and past 5 days with two thresholds (ISG, intervention group)

Indicator	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Attendance in the last month			
At least 75% attendance	94.8	94.8	GQ_B08
100% attendance	52.8	56.6	GQ_B08
Attendance in the last 5 days			
At least 75% attendance	94.1	91.7	GQ_B09
100% attendance	86.3	85.6	GQ_B09

Table 58 shows the findings against the Logframe indicator. For the second indicator, we report against the percentage of ISGs who report 100% attendance over the last month for consistency with the baseline report and because it appears that this is the indicator against which midline and endline targets were set. At baseline, 52.8% of girls reported 100% attendance over the last month. This has increased to 56.6% of girls at midline. This falls short of the midline target set at 60%.

Given this performance, it may be necessary to adjust the endline value on this indicator. Given the high attendance rates that are achieved against a 75% attendance threshold, we recommend retaining the 100% attendance threshold as the Logframe indicator. As suggested above, girls' recall of their attendance over the last 5 day is likely to be more reliable than their self-reported attendance over the last month, so it may be preferable to change the Logframe indicator to the percentage of girls who have attended 100% of the time over the last 5 days. The option of adopting a Logframe indicator based on the attendance data from the school records for ISG at endline could also be considered.

Regarding attendance at the learning centre, according to learning centre records, 48.7% of girls (ISG and OSG combined) attended the learning centre at least 75% of the time over the past 5 days that the learning centre was in session. The midline target of 48% of girls having good attendance has therefore been met exactly. It should be noted however that attendance rates at the learning centre are low, and it would be important for the programme to consider the activities they will put in place in order to lead to a substantial increase to 76% good attendance by endline (which is the current endline target).

Looking at attendance at the learning centre amongst ISG and OSG separately, ISG have a lower attendance rate than OSG, with 41.3% of ISG having good attendance compared to 58.7% of OSG.

Table 58: IO Logframe indicator on attendance

IO	IO indicator	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
Attendance	Percentage of all marginalized girls who achieve at least **75% attendance at the learning centers**.	N/A*	48%	All girls: 48.7% ISG: 41.3% OSG: 58.7%	Y	76%	Y
	Percentage of ENGINE II ISGs reporting good attendance, defined as **100% at school over past month (self-report)^**	52.8%	60%	56.6%	N	75%	Not clear
Main qualitative findings							
Teachers reported that some of the girls have achieved improved attendance in school/learning centre because of improved teaching quality as well as the girls' expectation (scholarship for educational opportunities, grants or equipment support for business) from the ENGINE II programme. Nevertheless, other programmes (e.g. MAFITA) implement similar intervention in the ENGINE II clusters and run their activities at times that conflict with that of ENGINE II. This may affect the girls' attendance and interest. Other factors that affect girls' attendance are farming season, poor and unstable weather, high-chore burden, nonchalant attitude of household members to schooling, and long-distance travel to and from school. To address the above challenges, some of the respondents said maintaining a high spirit, being exposed to positive motivation and support for the girls will ensure that achieve good attendance.							

Note: *No data was collected at baseline. ^ While the current Logframe indicator states 'Percentage of girls with at least 75% attendance in the last month', the value from the baseline report represents the percentage of girls with 100% attendance over the last month, and it appears that targets for midline and

endline were set based on this value from the baseline report. We are therefore reporting against the same indicator for consistency.

6.1.2 Impact of ENGINE II on girls' attendance in school

Table 59 shows the impact of ENGINE II on attendance rates using difference-in-difference analysis on two indicators of attendance: the proportion of girls who attended school at least 75% of the time in the last five days, and those who attended school 100% of the time in the last five days. A host of control variables are included in the analysis to control for any observable differences between the intervention and control groups.

Across indicators, the percentage of girls with good attendance was similar at baseline and midline in the intervention group. In the control group, however, the percentage of girls with good attendance decreased significantly between baseline and midline. As a result of this, the difference-in-difference estimate is positive for both indicators, although it does not reach statistical significance. Therefore, although there are some positive trends, with the good attendance rate being maintained in the intervention group while dropping in the control group, we do not find evidence of a significant impact of ENGINE II on attendance at midline.

Table 59: Impact of ENGINE II on girls' attendance in school (self-report)

Cohort	Baseline intervention (%)	Midline intervention (%)	Difference baseline to midline (% point)	Baseline control (%)	Midline control (%)	Difference baseline to midline (% point)	Difference in difference (intervention – control difference) Unadjusted (% point)	Difference in difference (intervention – control difference) Adjusted (% point)
ISG (cross-sectional sample)								
% of ISG who attend at least 75% of the time	94.1	91.7	-2.4	93.5	87.9	-5.6***	3.2	3.5
% of ISG who attend 100% of the time	86.3	85.6	-0.7	85.0	79.0	-6.0**	5.3	4.3

6.1.3 Attendance reporting by girls and their caregivers

Table 60 compares the percentage of girls with good attendance as reported by themselves and as reported by their caregivers. The reporting of good attendance by the caregivers echoes very closely what was self-reported by the girls with regard to their own attendance. In both midline and baseline, reporting by primary caregivers tells the same story about attendance as told by the ISGs, suggesting that caregivers have largely accurate pictures of the attendance rates of their daughters.

Table 60: Attendance rates as reported by the girl and her caregiver (ISG)

Attendance in the last five days	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)	Source
Girls with 100% attendance in the last 5 days					
Self-reported by girl	86.3	85.6	85.0	79.0	GQ_B09

Attendance in the last five days	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)	Source
Girls with 100% attendance in the last 5 days					
Reported by primary caregiver	81.9	87.4	80.4	75	HQ_C04
Girls with at least 75% attendance in the last 5 days					
Self-reported by girl	94.1	91.7	93. 5	87.9	GQ_B09
Reported by primary caregiver	95.6	94.0	94.8	85	HQ_C04

6.1.4 Subgroup analysis of the attendance outcome

In this section, we examine how baseline and midline attendance rates differ for girls with different characteristics or who face particular barriers to their education. We also examine how the change in the percentage of girls with good attendance between baseline and midline for these groups of girls compares to the change seen in the sample as a whole.

For most groups of ISGs, rates of achieving good attendance, attending four out of the past five days of school, are high. The groups with the lowest percentage of girls with good attendance are married girls and girls who have a disability but the sample sizes for these groups are very small. Many of the other subgroups also have low sample size. While the changes from baseline to midline are negative in almost all cases, the changes are mostly small and not significant. The only notable change is that amongst girls who do not use the toilet at school, a significantly lower percentage of girls have good attendance at midline compared to baseline.

Table 61: Girls with good attendance (75%) in the last 5 days for key subgroups (ISG, intervention group)

Characteristics			Percentage of girls with good attendance (75%) in the last five days		
	N at BL	N at ML	Baseline (%)	Midline (%)	Percentage point change in attendance since baseline
Average for ISG	460	521	94.1	91.7	-2.4
State					
FCT	130	124	96.9	96.0	-0.9
Kaduna	180	201	91.1	89.6	-1.6
Kano	150	196	95.3	91.3	-4.0
Age (based on age at baseline)					
Age 17 – 18	421	498	94.8	92.2	-2.6
Age 19 – 20	35	20	85.7	85	-0.7
Age 21 – 23	4	3	100	66.7	-33.3

Characteristics	N at BL	N at ML	Percentage of girls with good attendance (75%) in the last five days		
			Baseline (%)	Midline (%)	Percentage point change in attendance since baseline
Grade (based on grade at baseline)					
JSS3	80	132	92.5	92.4	-0.1
SS1	112	258	92.9	91.1	-1.8
SS2	268	131	95.1	92.4	-2.7
Characteristics					
Has disability	22	12	95.5	58.3	-37.2**
Married	5	5	80	60	-20
Orphan	159	101	92.5	90.1	-2.4
Likely to be extremely poor	70	53	94.3	94.3	0
Long travel to school (over 30 minutes)	144	193	94.4	91.7	-2.7
Feels unsafe at school	15	12	100	91.7	-8.3
School has no drinking water	137	152	92.7	92.1	-0.6
Does not use toilet at school	211	312	94.8	89.7	-5.1**

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

6.1.5 Factors affecting attendance

Table 62 below show the major reasons reported for being absent from school as reported by ISG.

The main reason for missing school was own/family illness. About 59% of girls in the intervention population and 47% of girls in the control population reported that they had missed school for this reason at midline. Approximately 11% of girls in the intervention population and 8% of girls in the control population reported that they missed school due to social or religious obligations at midline.

Table 62: Reasons why ISG do not attend school (reported by girls)

	Intervention (Baseline) (%)	Control (Baseline) (%)	Intervention (Midline) (%)	Control (Midline) (%)	Source
Own/family illness	46.9	58.5	58.7	48.6	GQ_B10
Transport Problems	1.8	9.2	1.3	3.6	GQ_B10

	Intervention (Baseline) (%)	Control (Baseline) (%)	Intervention (Midline) (%)	Control (Midline) (%)	Source
Social or religious obligations (funerals, weddings, etc.)	9.7	9.2	10.7	8.1	GQ_B10
Market/commercial activity	2.7	3.1	1.3	3.6	GQ_B10
Errands/Domestic Chores	5.3	12.3	5.3	9.9	GQ_B10
Farming	1.8	0.0	4.0	8.1	GQ_B10

In the qualitative research, there were in general mixed perceptions about whether attendance had improved. While some respondents felt that attendance had improved, others noted several persisting barriers to attendance.

An important factor that was identified by a number of respondents as related to improvements in attendance, was the introduction of free education for girls, which has likely contributed increased enrolment rates, as well as being in support of improved attendance rates.

"Attendance for boys and girls is not the same. The ratio of the girls is more than the boys because of the farming season. The boys tend to go the farms and secondly, the KADUNA State has declared free Education for Girls. This has increased enrollment and attendance for the Girls since they are not to pay anything." **Teacher, Kaduna**

Some respondents noted that the requirement to engage in domestic or economic activities in support of their household can also affect the attendance rates of girls, and evidence presented in Table 62 suggest that this barrier may have become more prevalent at midline compared to baseline. For those girls who were required to engage in some form of economic activity the requirement to perform hawking activities in the early morning meant that they were often late for school, reducing their attendance at morning sessions.

"Though the pattern observed was that's in the mornings, there were less girls in school because majority of them were maids and house helps and had house chores to do and also had to drop off the children of their bosses at school, some were said to hawk in the mornings to make ends meets, thus for the few that attended school in the mornings they were late. In the afternoon the attendance improved because the girls knew and appreciated the importance of education." **Teacher, FCT**

For OSG, most employers participating in ENGINE II demonstrated an understanding of the needs of the programme reporting that they would provide leave to the OSG to attend the learning centre sessions. There were however some employers who refused to give girls in their employment time off to attend the learning centre sessions.

"Sara, my apprentice, is very committed and passionate about her apprenticeship. She never misses attendance to her shop unless circumstances forced her to do so. Because I know she attends classes courtesy of the ENGINE programme, I always grant her permission when she needs to attend classes so that she does not miss." **ENGINE II girl employer, Lagos**

OSG also noted other barriers to attendance including some that are similar to those identified by ISG in the quantitative research, like missing school during the farming season, when there have been heavy rains, or when there are social or religious gatherings. Some OSG who are married with children reported that it becomes burdensome for them to take care of their children and be able to keep up effectively with activities at the centres. Some of them who could afford it were able to take their children to day-care centres. Girls who are single parents and have to fend for themselves would rather attend to their business than come for lessons.

The timing of the learning centre sessions was a barrier to attendance for some girls. Because most of the sessions take place after school, a good number of households do not allow their children to stay back after school for learning centre activities; and in cases where the girls insist on participating beyond the normal school hours, they often get into trouble when they return home. This was particularly the case for girls who do not reside with their biological parents.

In addition, the programme reports and ENGINE II implementing partners in government noted that attendance at the learning centres was affected by OSG attending intensive coaching sessions to prepare them for entrance examinations for advanced or tertiary education. These coaching sessions took place at almost the same time as the learning centre sessions. Moreover, the reports indicated that the content being taught to OSG during the learning centre sessions was considered less relevant for those who were receiving intensive coaching sessions in preparation for the examinations.

6.2 Quality of Teaching

ENGINE II was tailored to upskill teachers, providing them with quality pedagogical content tailored to the needs and interests of marginalised girls. The primary aim of these activities is to improve learning outcomes in girls. It has been established that improving teaching quality can lead to an improvement in how pupils learn in school, which leads to better performance. This section reports data on teaching quality, with data reported in the teacher questionnaire, girl questionnaire and the household questionnaire. We also report findings from the qualitative study.

All ENGINE II girls, both in-school and out-of-school are provided additional coaching so they can attain functional literacy and numeracy skills. This is offered at the learning centres in addition to other extra-curricular activities like life skills and vocational training that they are exposed to. Girls that are in the examination class or have recently graduated and will soon be taking the Joint Admissions Matriculation Board (JAMB) examinations are also given intensive tutorials to prepare them for these examinations.

To achieve this objective, teachers were identified and selected through a rigorous recruitment exercise led by the programme team across the intervention areas. The teachers were trained on learner-centred methodologies, gender sensitivity, child protection and inclusive teaching for persons with disabilities.

Based on the findings generated from the teacher needs assessment conducted by the programme at the onset of implementation, it was reported that the teachers had difficulties teaching phonetics, calculus and trigonometry, therefore, the programme targeted its training objectives to address these issues. ENGINE II developed a tutorial video on phonetics, that was uploaded on the electronic android device given to the LCFs.

The teacher training was delivered by master trainers across all 4 states between July and September 2018, which is less than a year before the midline. Subsequently, ENGINE II teachers participated in a 2-day refresher training once every 6 months to keep abreast on best practices that could aid their delivery of quality learning sessions. They also took part in monthly Teacher Professional Development Day (peer review) meetings to support networking and peer mentoring among themselves.

Link to Outcomes

This intermediate outcome seeks to measure the number of teachers using a learner-centred teaching methodology both at learning centres and in classrooms. The programme links this intermediate outcome to Outcome 1, learning, as an improvement in teaching quality is essential to improve learning outcomes (Masino and Nino-Zarazua, 2016; Bietenbeck, et.al. 2017). The rationale provided by the programme is logical, and the IO is appropriately worded.

Tools for Measurement

This section draws on three primary indicators for teaching quality:

Firstly, the Principles of Adult Learning Scale (PALS) (Conti, 1998) was administered to the ISG teachers and OSG LCFs. The PALS is a questionnaire made up of 44 questions used to determine if ENGINE teachers and LCFs practice teaching methodologies that are suited to adult learners as described in the adult learning literature. The questionnaire uses a modified Likert scale, and teachers are asked to indicate the frequency with which they practice or deal with students and/or classroom situations described in each item.

Questions are grouped to reflect 7 factors: learner-centred activities, personalising instruction, relating to experience, assessing student needs, climate building, participation in the learning process and flexibility for personal development. If the teachers' mean score is lower than or equal to the mean for each factor, it suggests that the teachers have possible areas for improvement towards a more learner-centred approach to teaching. Consequently, if the total mean score is less than or equal to 146, it indicates that the teacher uses a teacher-centred approach to teaching, while a total mean score of higher than 146 indicates that the teacher uses a learner-centred approach to teaching. Scores near 146 indicate that the teacher uses a combination of learner-centred and teacher-centred approaches to teaching.

Secondly, girls' perception of teaching quality was assessed based on a set of 6 statements about teaching quality scored on a Likert-type scale (questions B11 – B15 in the girl survey). On each statement, girls were classified as having either a 'good' or 'poor' perception of the teaching quality. 'Good' perception of teaching quality was defined as strongly agreeing or agreeing with the statement *'The teacher makes me feel welcome in the classroom'*, strongly disagreeing or disagreeing with the statement *'My teachers are often absent from class'*, and answering 'often' or 'sometimes' for the remaining four statements. A total score out of 6 is calculated as the number of items on which girls have a good perception of teaching quality. A threshold score of 5 was set for good perception of teaching quality. Therefore, girls who reported positively on 5 or above questions were considered to have a good perception of teaching quality, while girls who reported positively on 4 or fewer questions were considered to have a poor perception of teaching quality.

Sampling

The PALS questionnaire was administered to teachers enrolled in the study. The selected teacher was a teacher who teaches Math or English to students between SS1 and SS3. Preference was given to a teacher who meets the previously stated criteria, and was trained on ENGINE I.

6.2.1 Key findings against the Logframe indicator

At baseline and at midline, no teachers score higher than 146 on the PALS. As a result, the percentage of teachers and LCFs who use a learner-centred teaching methodology at midline is 0%. There has been no improvement on this indicator since baseline and the Logframe target has not been met.

At baseline, 80% of ISG already had a positive perception of their teachers' teaching quality. This has increased to 84.7% at midline. The improvement over time falls short of the Logframe target, which specified a 10%-point improvement over the baseline value. It should also be noted that the endline target of 65% has already been exceeded at baseline and midline, and the endline target should be revised.

Table 63: IO Logframe indicator on teaching quality

IO	IO indicator	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
Quality of Teaching	2.1 Percentage of ENGINE II LCFs (teachers) using learner-centred teaching methodology both at ENGINE II learning centres and at classrooms	0%	30%	0%	N	50%	Y
	2.2 Percentage of ISG who report 'good' teaching quality at schools.	80.0%^	BV + 10%	84.7%	N	65%	Y
Main qualitative findings							

IO	IO indicator	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
FGD sessions with the girls revealed that the teachers are more learner-focused at the time of the midline evaluation study. Girls reported that the teachers take more time to teach and ensure they understand the lessons, and carry out participatory activities in the class more to ensure that all learners are carried along. Also, teachers were said to be using more visual aids and instructional materials to aid themselves while tutoring the learners. This depicts that programme activities that are geared towards improving the skills of teachers are gradually resulting better teaching practices.							
Reflections and targets							
IO 2.1. The baseline and midline performance on the PALS scale suggest that the threshold mean value of the scale is likely to be too high a target for teachers in ENGINE schools and learning centres to reach. Instead, it may be preferable to measure progress along the continuous scale as is done below in the impact analysis. At endline, it would also be valuable to include measures from the lesson observation that capture what teachers are doing in the classroom. IO 2.2. This indicator is fit for purpose and measurable. The endline target should be adjusted.							

^ In the ENGINE Baseline Report, this value was reported as 33.5% due to an error in the calculation of the indicator. Given that the performance on this indicator is substantially higher than originally reported, the ML target should be reconsidered.

6.2.2 Impact of teacher training on teaching quality

In this section, we present on the impact of the ENGINE II programme on teaching quality using PALS scale.

The mean scores for ENGINE II teachers at midline slightly improved over that of baseline with a difference of 1.5 unlike those in the control where a negative mean (-0.6) was observed, but neither change was statistically significant. There is a small positive difference-in-difference estimate of 2.8 points, but this is not statistically significant, and there is therefore no evidence that ENGINE II has had an impact on teaching quality at midline.

Table 64: Impact of ENGINE II on teaching quality

Variable	Baseline intervention (%)	Midline intervention (%)	Diff baseline to midline intervention (% point)	Baseline control (%)	Midline control (%)	Diff baseline to midline control (% point)	Diff-in-diff (Intervention – control) unadjusted (% point)	Diff-in-diff (Intervention – control) adjusted (% point)
Teachers PALS Scale (ISG)	120.7	122.2	1.5	121.3	120.2	-1.1	2.6	2.8

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

In the qualitative research, some teachers discussed the benefits of the ENGINE II teachers training.

"The ENGINE II programme has given me back my zeal, I was had less confident and the ability to teach, but now I can say that I exude enough confidence to teach and talk to people generally. This was not the case before my engagement as an ENGINE teacher. I have developed this new confidence in the course of interacting with the girls as their facilitator". **Teacher, Lagos**

However, teachers across the four states spoke about challenges that they experience that affect the quality of teaching that they are able to deliver. A common challenge mentioned was the lack of good quality teaching and learning materials, and adequate infrastructure. They acknowledged the efforts of ENGINE II

and their school management in providing these resources but considered the available resources to be inadequate.

"Teaching a class where you will need to do comprehension in English is a problem since in a class only 5 or less than that have the required textbook to be used. Sometimes, the teacher is constrained not to teach comprehension but something else." **Teacher, Kaduna**

"So far, we are using old fashioned teaching materials and there is a need for the modern ones. For example, it is difficult to group some girls because of the nature of the chairs in the class, the chairs are not plastic, it is not easy to rearrange the chairs to form a group." **Teacher, Kano**

"Another challenge is teaching the students without materials. Most of the students do not have textbooks and calculators and this results in slow learning process." **Teacher, FCT**

As has been discussed in Chapter 3, teachers also discussed the challenge of teaching learners who lack foundational knowledge because there is not enough lesson time to reteach foundational skills.

"The challenge I face as a teacher is the low level of knowledge of some students who cannot read due to poor foundation. I mean, how do you teach a student that cannot read basics from the primary school? I try to dedicate extra time for those with this challenge so that I can give them elementary lessons." **Teacher, Kaduna**

Some teachers also expressed the challenge that they felt that students did not participate in the lessons to their full ability.

"The challenge I have as a teacher is the fact the students do not like participating in lessons even when they know the answer to a question. They wait until they are called upon to talk without volunteering, secondly, the students do not like speaking English they prefer to speak in Hausa which makes teaching literacy difficult." **Teacher, Kano**

6.2.3 Further analysis of teaching quality

Table 65 shows the mean scores that teachers of ISG (in the intervention and control groups) and LCFs of OSG (in the intervention group only) achieved in each of the seven domains of the PALS. We first look at teachers' performance at midline compared to the standard mean score, then look at changes over time, and differences between the intervention and control groups.

On average, teachers score higher than the standard mean score on the 'Participation in the learning process' domain, which captures the extent to which teachers allow students to participate in setting their learning objectives or topics to be covered in class. This means that teachers are on average learner-centred rather than teacher centred in this domain. Teachers score close to the mean score on the 'relating to experience', 'assessing student needs' and 'climate building' domains, indicating that teachers adopt a mix of teacher- and learner-centred approaches in these domains. On the other hand, teachers score below the standard mean on 'personalising instruction' and 'flexibility for personal development', while they score far below the standard mean on 'learner-centred activities'. The 'learner-centred activities' domain assesses the extent to which teachers set learning objectives themselves, use disciplinary action, assess progress through written tests and through comparisons with standardised test scores (all of these are viewed as more teacher-centred activities).

Over time, there are few changes in any of the groups. The average score did not change significantly between baseline and midline in any of the three groups (ISG intervention teachers, ISG control teachers, OSG intervention LCFs). On the subdomains, there was a slight decrease in the average score in the learner-centred activities domain in all three groups, and an increase in the 'relating to experience' domain amongst ISG teachers in the intervention and control groups.

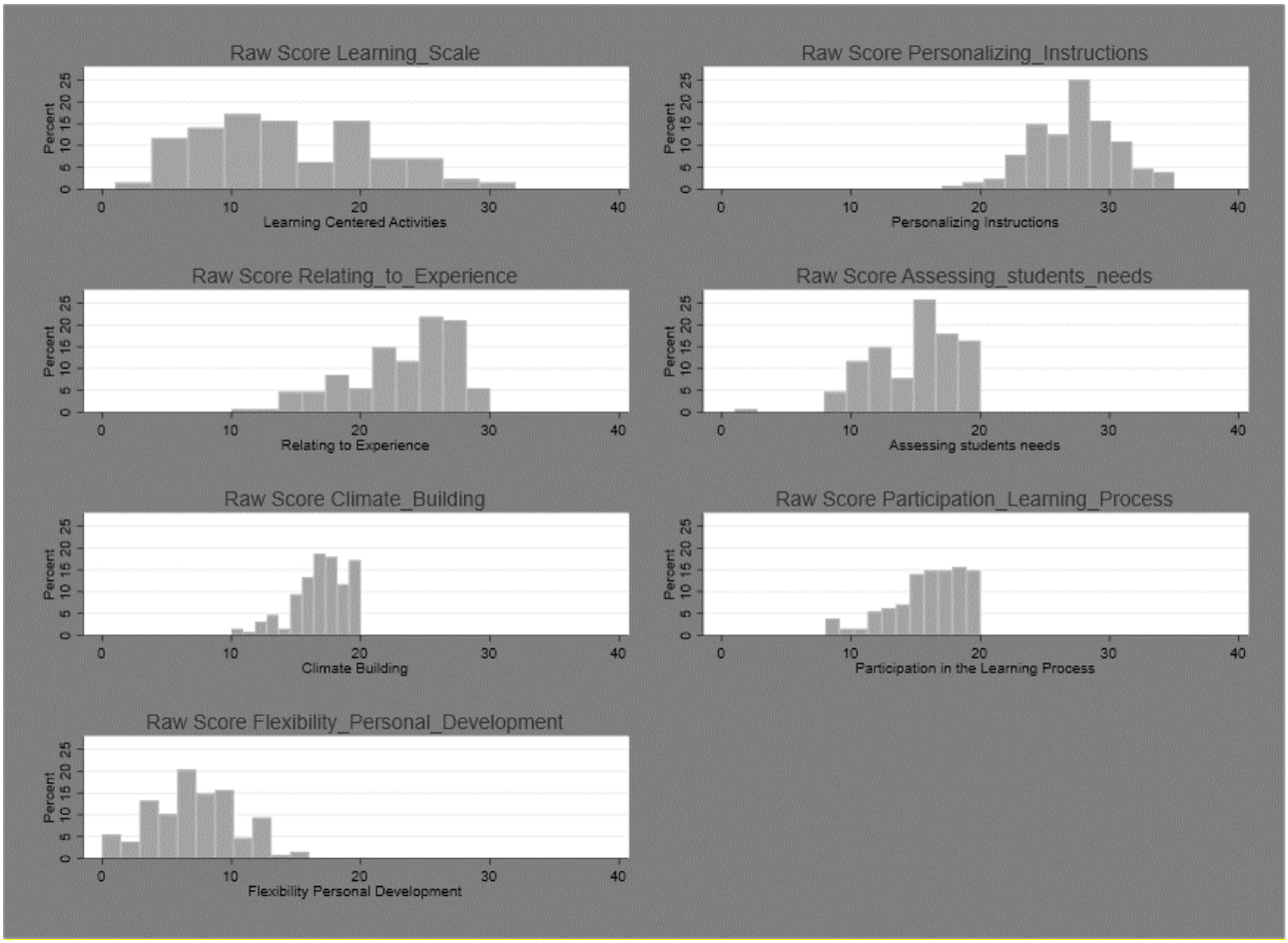
Table 65: Performance on seven domains of PALS at baseline and midline amongst ISG teachers (intervention and control) and OSG LCFs (intervention only)

PALS Standard			ISG						OSG			
Factor	Mean	S.D.	Intervention		Control		SD Intervention		Intervention		SD Intervention	
			BL	ML	BL	ML	BL	ML	BL	ML	BL	ML
1. Learner-Centred Activities	38	8.3	17.5	14.8*	17.7	14.9*	7.7	6.2	16.5	13.8*	7.8	7.6
2.Personalising Instruction	31	6.8	26.9	27.5	26.9	27.6	3.7	3.5	26.4	26.9	2.9	3.8
3. Relating to Experience	21	4.9	21.6	23.4*	21.5	23.3**	3.4	4.8	23.1	23.1	4.1	4.2
4. Assessing Student Needs	14	3.6	14.5	15.2	13.7	14.2	3.2	3.4	15.6	15.3	3.8	3.8
5. Climate Building	16	3	17.1	17.6	16.4	16.5	2.7	2.2	16.5	17.1	3.0	2.3
6. Participation in the Learning Process	13	3.5	16.4	15.9	16.3	16.4	2.9	2.4	15.2	15.2	3.8	3.1
7. Flexibility for Personal Development	13	3.9	6.7	8.0	8.8	7.2**	3.3	3.9	6.8	6.3	3.3	3.2
Total	146	20	120.7	122.4	121.3	120.2	26.9	26.4	120.1	117.7	28.7	28

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

Figure 8 presents the graphical representation of mean score distribution of teaching methodology at midline. Scores below the standardized mean score as indicated in the table above shows that the teaching practices and skills deployed in class by the teachers/learning centre facilitators are not learner centred.

Figure 8: Graphical presentation of teaching quality at ML using PALS scale



6.2.4 Exposure to teacher training

Table 66 shows the topics that teachers of ISG have been trained on in the last 12 months at baseline and midline. As would be expected, the proportion of teachers who report having been trained on learner-centred practices and methods, gender sensitivity and child protection has increased substantially in the intervention group as a result of the ENGINE II teacher training. On the other hand, only a relatively small proportion of teachers in the intervention group reported that they have received training on inclusive teaching for persons with disability. In the control group, very low proportions of teachers have received training on any of the topics in the last 12 months.

Table 66: Teachers' exposure to teacher training (ISG)

Variable	Intervention (baseline) (%)	Intervention (midline) (%)	Control (baseline) (%)	Control (midline) (%)
Has received training in the last 12 months on:				
Learner-centred practices & methods	28.9	87.5	19.6	10.3
Gender sensitivity	8.9	62.5	6.5	2.6
Child protection	11.1	70.0	4.4	2.6

Variable	Intervention (baseline) (%)	Intervention (midline) (%)	Control (baseline) (%)	Control (midline) (%)
Inclusive teaching for persons with disability	8.9	20.0	4.4	2.6
Has been trained on at least one of the four topics	35.6	92.5	23.9	12.8

6.2.5 Girls' perception of teaching quality

The girl questionnaire was used to assess the proportion of ISGs who have a good perception of their teacher's teaching quality (Table 67). Due to a programming error in the questionnaire, the questions on girls' perception of teaching quality were not administered in the control group, and a comparison between intervention and control groups is therefore not possible at midline.

Overall, the results from the girl questionnaire suggest that ISGs in the intervention group have a positive perception of their teachers' teaching quality. However, the percentage of ISGs who disagree that their teachers are often absent from class is relatively low at 82.8% at midline, which has not changed significantly from baseline. This suggests that teacher absence from the classroom may be an area for improvement.

At midline, 84.6% of girls have a good perception of teaching quality compared to 80.0% of girls at baseline, a difference that is marginally statistically significant (at the 10% level). This change over time seems to be driven by more positive perceptions on two statements: at midline, a higher percentage of girls felt that their teacher uses a different language if a student does not understand something either often or sometimes (as opposed to rarely or never). A higher percentage of girls also felt that teachers were often or sometimes suggesting ways to study after school.

Table 67: Perception of teaching quality at baseline and midline (ISG, intervention group)

Indicator	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Agrees with statement 'Teacher makes me feel welcome'	95.4	93.7	GQ_B11
Disagrees with statement 'Teacher often absent from class'	81.1	82.8	GQ_B12
Teacher uses a different language if student does not understand often or sometimes	84.5	92.7***	GQ_B13
Teacher encourages students during lesson often or sometimes	90.6	93.1	GQ_B14
Teacher uses instructional materials often or sometimes	83.7	85.2	GQ_B14a
Teacher suggests ways to study after school/at home often or sometimes	87.8	91.3*	GQ_B15
Girl has good perception of teaching quality	80.0	84.6*	

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

The findings from the girls' interviews indicated that they perceived that the teaching quality was good due to the teachers' patience in explaining difficult concepts, using real life scenarios through role play to enhance learning and peer to peer mentoring. In Kaduna state where the teaching quality was perceived by the girls to have dropped due to massive retrenchment of teachers, they praised the efforts of the ENGINE teachers in backstopping wherever gaps were noticed.

6.2.6 Teachers' use of corporal punishment

Questions on teachers' use of corporal punishment were introduced at midline. In schools, 90% of ISG reported that their teachers discipline students who get things wrong in a lesson, while 53% of OSG reported this for the learning centres. Amongst girls who reported that their LCFs discipline students who

get things wrong, ISG reported that physical punishment was the most common type of discipline used, with 93% of ISG reporting this type of punishment. Amongst OSG who reported that the LCFs discipline students who get things wrong, OSG reported that shouting was the most common type of punishment used, while lower proportions of OSG reported that the teacher uses physical punishment or detention. Of all ISG, 67% reported that they had witnessed their teachers use physical punishment in the last week, while 10% of ISG had experienced physical punishment in the last week. These numbers are lower amongst OSG, with 14% reporting that they had witnessed physical punishment in the last week, and 7% reporting that they had experienced it.

Table 68: Teachers' use of corporal punishment (ISG and OSG, intervention group)

Factor	ISG (Midline) (%)	OSG (Midline) (%)	Source
Do your teachers discipline students who get things wrong in a lesson?	89.9	52.8	GQ_B15f
Type of discipline used: physical punishment*	93.0	39.1	GQ_B15g_a
Type of discipline used: shouting*	67.4	51.6	GQ_B15g_b
Type of discipline used: detention*	45.8	37.0	GQ_B15g_c
Witnessed physical punishment in the last week	67.2	13.6	GQ_B15i
Experienced physical punishment in the last week	10.0	6.7	GQ_B15h

Note: * These questions were only asked to girls who answered 'yes' to the question 'Do your teachers discipline students who get things wrong in a lesson?'

6.2.7 Household perception of teaching quality

When caregivers of ISG were asked to report on the teaching quality at their daughter's school, only 36.8% of caregivers described the teaching quality as 'excellent', which is a significant decrease from baseline where 50% described the teaching quality as 'excellent'. While this may reflect a deterioration in teaching quality, it may also be that this is an effect of caregivers becoming more engaged in the education of their daughters, and taking more of an interest in challenges that girls are facing at school. In line with this, a significantly higher percentage of caregivers at midline reported that they had been informed of the progress their daughter had made in the last 12 months.

Table 69: Household perception on teaching quality (ISG, intervention group)

Indicator	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Has been informed about girls' progress in the last 12 months	61.7	77.7***	HQ_C9
Describes teaching quality as 'excellent'	50.0	36.8**	HQ_C11

6.3 Economic empowerment

The ENGINE II programme is seeking to increase access to economic opportunities that can enable marginalised girls to create better financial futures, build assets, and gain autonomy to become financially independent. Since baseline, the programme has developed and deployed the Financial and Business Education manual for the use of OSGs in implementation states. In addition, the ENGINE II programme has implemented several activities to ensure that target girls possess the appropriate skills and knowledge to make informed decisions and become economically empowered. During the first phase of the ENGINE programme, savings groups were formed and rolled over for additional support into ENGINE II. Refresher trainings on the use of financial tools are also being conducted from time to time with these savings groups. Furthermore, active and vibrant savings group are supported to evolve into cooperative associations by linking them to the Microfinance Institutions to facilitate access to loans and business opportunities as registered and government-approved entities.

ENGINE II provides OSGs with financial and business manuals to equip them with knowledge and standard practices to enable them to run profit-oriented businesses, make informed financial decisions, and facilitate access to financial services. Group leaders or girl ambassadors are also trained and supported to create social media platforms to facilitate them to showcase their activities and products. In addition, the ENGINE II programme also promotes financial inclusion of OSGs by supporting them to open savings account. They also connect OSGs to public and private sector employers so that they can acquire vocational skills, be recruited as interns, or become apprentices on occupations suitable for them, thereby increasing opportunities for employment.

ISGs and OSGs receive complementary life skills, health education, digital awareness, career counselling, and job readiness training reinforced by peer networks and mentorships at learning centres. To understand the progress of OSGs, in this section, we report on the economic empowerment of OSGs with respect to participation and advancement in business, and the availability of economic opportunities. We then go onto discuss potential barriers to active participation and profitability in business faced by OSGs.

Link to final outcomes

This intermediate outcome seeks to measure the percentage of marginalised girls who present an improvement their financial situation and report access to economic opportunities and is specific to OSGs only. The programme links this intermediate outcome to Outcome 2, transition through transition into economic opportunities. An improvement in the financial situation and better access to economic opportunities further facilitates the successful transition of OSGs. The rationale provided by the programme is logical, and the IO is appropriately worded.

Tools for measurement

In addition to the household survey listed in the log frame as the tool of measurement for this intermediate outcome, the girl questionnaire was also used at midline to create an accurate picture of any changes in income from the girl herself rather than from members of her household. Data from both sources were triangulated. Other tools in the log frame include the Girl Mapping tool developed by MC and MC internal value chain integration monitoring data, which will be used by the program to measure this intermediate outcome.

6.3.1 Indicators of economic empowerment

In this section, we report on the Logframe indicators for economic empowerment. For the purposes of this evaluation, economic empowerment is defined as improved profitability in business, and access to a range of livelihood opportunities. Table 70 reports on these indicators for the panel sample of OSGs in the intervention group.

As discussed in Chapter 4, 17.0% (45 girls) of OSGs at midline were actively involved in a business. Indicator 3.1 is calculated only for girls who are involved in business, and it is therefore important to bear in mind the small sample that the indicator is based on (45 girls). Of the OSGs who reported active engagement in business at midline, 38% reported an increase in profits in the last 12 months as a result of the business or training they are involved in[34]. It should be noted that at baseline, girls were only asked whether their income had improved in the last 12 months, while at midline girls were asked whether their income had improved in the last 12 months *as a result of the business or training they are involved in*, and was focused on assessing increase in income since the baseline. As a result, no comparable baseline value is available.

[34] This indicator is self-reported by OSGs and is not indicative of any statistical impact of ENGINE II trainings on increased profits in business.

To understand the access of economic opportunities available to OSGs, girls were asked to report on the earning opportunities they were aware of in their community[35]. As demonstrated in Table 70, 63% of OSGs in the intervention group at midline reported being aware of at least two such opportunities in their community, as opposed to 46% at baseline. The programme does not meet the target set for this indicator by only 3 percentage points. Given this positive trend, continuing efforts by the programme to increase awareness on the economic opportunities available to girls will enable it to meet the target for endline.

Table 70 IO Logframe indicators on economic opportunities

IO	IO indicators	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
3.1	Percentage of OSGs reporting increase in income as a result of business training [a]	N/A	BV + 10%	37.8% (of 17.0% of OSG who are involved in business)	N/A	BV + 30%	Y
3.2	Percentage of OSGs who report access to a variety of livelihood opportunities and skills.[36]	46.4%	BV + 20%	63.0%	N	BV + 45%	Y
Main qualitative findings							
Qualitative sessions with the girls and other indirect beneficiaries indicated that the ENGINE II programme has provided marginalized girls with financial management skills which has reflected in how they conduct their businesses, save income, and make informed life decisions. Some of the opportunities mentioned included girls having access to the Access Banking agent program which provides them with the chance to enjoy mobile banking benefits, which is a source of income for them. Also, business training has enhanced their knowledge and skills to expand and/or diversify their income generating activities. KII respondents affirmed these changes as a good medium to help girls live a better life, positioned to support themselves and their immediate families.							
Reflection and targets							
IO 3.1. This Logframe indicator is difficult to measure for several reasons: Firstly, it is very difficult to reliably measure income and profit, as individuals often cannot report these accurately. As a result, the indicator measures girls' perceptions of whether their income has increased over time. Secondly, it is difficult to attribute any changes in income to the ENGINE intervention. The indicator currently assesses whether girls perceive that their income has increased as a result of business or training they are involved in. Thirdly, relatively few girls are currently involved in business so the indicator is based on a small number of girls, and the girls who are in business changes year on year so different groups are being compared over time. We would recommend that the indicator is retained for the endline. We would also recommend that at endline, additional information is gathered about the nature of the training or business support that girls receive, and whether this is provided by ENGINE to have supplementary information that can be used to attempt to establish whether changes in income are likely to come about as a result of the ENGINE intervention. IO 3.2. The Logframe indicator is fit for purpose and measurable. We believe that at endline, the measurement of this indicator could be strengthened by considering additional ways in which ENGINE II may be contributing to increased access to livelihood opportunities and skills (in addition to girls' awareness of these opportunities). While the indicator could be maintained as is for comparability with the midline, an additional sub-indicator could be added that is only available at endline. Treatment and control groups could be compared on this indicator at endline.							

This table reports on the baseline and midline vales for the intervention group only. Here, BV stands for Baseline Value.

[a] This percentage was calculated for girls active in business only.

[35] This question was asked to all OSGs.
[36] For the purposes of this evaluation, access to a variety of livelihood opportunities and skills is defined as being aware of more than one opportunity with earning potential in the community.

Since a majority of OSGs were aware of the economic opportunities around them, it is also important to present findings on OSGs who were actively engaged in business. These are discussed next.

6.3.2 OSGs active in business

The qualitative research conducted during the midline round of study revealed that ENGINE II had provided OSGs with valuable skills and training that would support the viability of the businesses that they were had engaged in. This included both vocational skills on which their business depended on - such as sewing, hair dressing, and cloth designing – but also entrepreneurial and financial skills acquired through the girls' fora and Access Mobile Banking Agent programmes in their community.

"The Girl's Fora taught us financial management – how to open accounts and save money. We also learnt current trending issues in our community through this forum. Things that engender common interest are always discussed at the Girls' Fora. The Access Mobile Banking Agent programme provided an opportunity for the participants to be involved in the Mobile Banking business which provided a small income for the girls." **OSG, Lagos.**

In addition, participants in this aspect of ENGINE II felt that it had made a real difference in the lives of some of the OSG participants. For those that had successfully managed to both start and maintain a business it was felt that this had contributed to the financial empowerment of OSGs.

"I have witnessed a girl being financially empowered to start up a business – sales of coca cola products. This is very unique and successful and I would like it to continue." **CDA member, Lagos.**

However, Table 71 reports that there has been a large and statistically significant decrease in the proportion of OSGs involved in a currently active business, falling from 49.1% of OSGs in the intervention sample at baseline, to just 17.4% at midline. This decrease is reflective of the significant challenges associated with both starting and then maintaining the success of a small business in the Nigerian context particularly in a context of recent weak economic growth[37].

A review of the available literature suggests a number of key barriers to success of small businesses, particularly in the early years of operation. Some of these barriers are being directly targeted by the ENGINE II programme. These include a lack of financial support, low financial literacy, and poor management of the small business[38]. However, other barriers remain outside of the control of the ENGINE II programme including inadequate and low-quality infrastructure, corruption, the taxation environment, and low levels of demand as a result of the general economic situation[39].

Nonetheless, of the girls who reported being aware of economic opportunities in their community, 20% were involved in business in the intervention group at midline as compared to 15% in the control group[40].

Table 71 also shows that 38% of girls at midline reported that their income had improved in the last 12 months as a result of the business or training they are involved in, compared to 41% of girls in the control group.

Table 71 Economic outcomes of OSGs

	Intervention		Control		**Source** (Girl survey)
	Baseline	Midline	Baseline	Midline	
Currently active in a business	120 (45.3%)	45 (17.0%) ***	55(23.3%)	39 (16.5%) *	GQ_c06

[37] Nigeria has experienced negative GDP per capita growth in each year over the period 2015 – 2018, (World Bank Development Indicators, https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.ZG?locations=NG)
[38] Okpara (2011) *Factors influencing electronic business technologies adoption and use by small and medium scale enterprises (SMEs) in a Nigerian Municipality*. Journal of Internet Banking and Commerce, 16(3), 1-26
[39] Agwu and Emeti (2014) *'Issues, challenges and prospects of small and medium scale enterprises in Port Harcourt City, Nigeria'* European Journal of Sustainable Development, 3(1), 101-114
[40] This result is not statistically significant.

	Intervention		Control		**Source** (Girl survey)
	Baseline	Midline	Baseline	Midline	
Income has improved as a result of the business or training received [a]		17 (37.8%)		16 (41.0%)	GQ_c06f

Asterisks indicate that differences between baseline and midline are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1. Indicators are calculated only for girls who are 18 years or older.

[a] This percentage was calculated for girls active in business only.

Table 72 explores the various areas in which OSGs reported spending the income generated from their business. Most girls spent their income to support their family, with 44% reporting doing so in the intervention group compared to 33% in the control group at midline. Spending income to fulfil personal needs was more common in the intervention group. As shown in Table 72, the percentage of OSGs in business reporting spending their income on themselves was 16 percentage points higher in the intervention group compared to the control group at midline[41]. There was a slight increase in the percentage of girls who spent their income to restock for their business from baseline in the intervention group. This result, however, did not reach statistical significance.

Table 72 Areas of expenditure of income from business

	Intervention		Control		Source
	Baseline	Midline	Baseline	Midline	
Replenishing stock	37 (28.7%)	14 (31.1.%)	8 (12.9%)	13 (32.5%) **	C06g
Petty Trading	7 (5.4%)	5 (11.1%)	2 (3.2%)	5 (12.5%)	C06g
Cater for children	29 (22.5%)	11 (24.4%)	22 (35.5%)	12 (30.0%)	C06g
Support family income	71 (55.0%)	20 (44.4%)	39 (62.9%)	13 (32.5%) ***	C06g
I save it in the bank/savings group/cooperative	41 (31.8%)	13 (28.9%)	13 (21.0%)	10 (25.0%)	C06g
Use it for personal needs	55 (42.6%)	14 (31.1.%)	39 (62.9%)	6 (15.0%) ***	C06g
Pay debt or service loans	2 (1.6%)	6 (13.3%) **	0 (0.0%)	5 (12.5%) **	C06g

Asterisks indicate that differences between baseline and midline are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1. These percentages were calculated for girls active in business only.

6.3.3 Access to livelihood opportunities and skills

Overall, the economic opportunities available to girls were similar across the intervention and control groups. As shown in Table 73, at midline, the most commonly reported opportunities were in fashion design, hairdressing, and catering. In addition, girls being involved in the sale of Coca-Cola was 10 percentage points higher in the intervention group compared to the control group at midline[42].

In addition to access to opportunities, girls were also asked about the challenges of starting a new business. As outlined in Table 73, the most commonly reported barriers among OSGs are related to financing, equipment, and skills.

Table 73 Access and barriers to business opportunities

	Intervention		Control		Source
	Baseline	Midline	Baseline	Midline	
Access to business opportunities [43]					
Coca-Cola sales	71 (26.8%)	65 (24.5%)	38 (16.1%)	34 (14.4%)	GQ_C10
Catering	71 (26.8%)	92 (34.7%) **	68 (28.8%)	69 (29.2%)	
Hairdressing	69 (26.0%)	90 (34.0%) **	66 (28.0%)	85 (36.0) *	
Make-up	43 (16.2%)	61 (23.0%) **	47 (19.9%)	53 (22.5%)	

[41] This result is statistically significant at the 10% level.

[42] This result is statistically significant at the 1% level.

[43] Awareness of the various opportunities was measured using a similar, but slightly different set of opportunities at baseline and midline. At midline, these were based on the scoping study that mapped business opportunities and interests of ENGINE II beneficiaries across intervention areas. The list of opportunities at baseline were informed by ENGINE I.

Computer operations	4 (1.5%)	2 (0.8%)	3 (1.3%)	5 (2.1%)	
Interior decoration	2 (0.8%)	3 (1.1%)	5 (2.1%)	6 (2.5%)	
Food retail (BL only)	105 (39.6%)	-	87 (36.9%)	-	
Shoe/bag making (BL only)	33 (12.5%)	-	26 (11.0%)	-	
Arts and craft (ML only)	-	80 (30.2%)	-	47 (19.9%)	
Fashion design (ML only)	-	158 (59.6)	-	141 (59.7%)	
Nursing (ML only)	-	0 (0.0%)	-	2 (0.8%)	
What is required to start business?					
Money	256 (96.6%)	248 (93.6%)	216 (91.5%)	208 (88.1%)	GQ_C11
Skills	75 (28.3%)	84 (31.7%)	68 (28.8%)	58 (24.6%)	
Equipment	158 (59.6%)	145 (54.7%)	126 (53.4%)	141 (59.7%)	
Permission from parents/spouse	26 (9.8%)	17 (6.4%)	23 (9.7%)	13 (5.5%) *	
Shop	76 (28.7%)	88 (33.2%)	64 (27.1%)	58 (24.6%)	

Asterisks indicate that differences between baseline and midline are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1.

At midline, about two thirds of OSG had a bank account while 43% of girls had a bank account that is functional. The percentage of girls with a (functional) bank account has not changed significantly since baseline. At midline, 39% of girls were part of a savings group, which represents no significant increase to baseline. This suggests that resources invested by ENGINE II into promoting access to bank accounts and savings groups have so far not resulted in any more girls accessing these resources. Girls in the intervention group are however much more likely to have a functional bank account and to be part of a savings group than girls in the control group at both baseline and midline, which may be a legacy effect of the ENGINE I intervention.

Table 74: Access to bank account and savings groups

	Intervention		Control		**Source** (Girl survey)
	Baseline	Midline	Baseline	Midline	
Has a bank account	66.8	66.8	17.4	24.2*	GQ_c07
Has a bank account that is functional	41.1	43.0	12.3	16.5	GQ_c07
Is part of a savings group	39.6	38.7	15.7	16.1	GQ_c08

Aside from the challenges discussed above, there are other barriers and characteristics of marginalization that might prevent girls from being actively involved in business or profiting from it. These are discussed in the next section.

6.3.4 Sub-group analysis of OSGs active in business

Table 75 presents the percentages of OSGs engaged in business across key sub-groups in the intervention group. All panel OSGs in the intervention group are part of the sample for this sub-group analysis. The sub-groups pertaining to disability are based on girls that reported facing 'some' or 'a lot' of the difficulty listed[44]. The table below indicates when then sample size is less than 60 implying that the results and correlations should be interpreted with caution.

[44] A very small number of girls reported facing 'a lot' of difficulty, among any of the difficulties listed. For more meaningful insights, the indicators on disability have been combined with girls reporting facing 'some' level of difficulty as well. This indicator is based on the Washington group of questions that assess types and severity of disability.

A higher percentage of girls in Kano were involved in business at midline compared to other states. As demonstrated in Table 75, 20% of OSGs were actively involved in business in Kano, as opposed to 13% in Lagos. Despite lower engagement in business at midline compared to baseline across all sub-groups, among girls who reported difficulty seeing, a much higher percentage of girls were involved in business (32%) as compared to the average OSG girl (17%) at midline. Similarly, involvement in business was 7 percentage points higher among married girls, and 11 percentage points higher among those having a sick parent, compared to the overall average for OSGs in the intervention group.

Table 75: Involvement in business across sub-groups in the intervention group

Characteristics	Baseline (%)	Midline (%)	Change since baseline (% point)
All OSG panel girls	49.1	17.4	-31.7***
State			
FCT [a b]	66.7	16.7	-50.0***
Kaduna	58.4	18.0	-40.4***
Kano	48.4	20.4	-28.0***
Lagos [a b]	24.5	11.3	-13.2*
Age at baseline			
<= 17 [a b]	34.3	11.4	-22.9**
18 [a b]	35.7	16.7	-19.0**
19	51.5	25.8	-25.7***
20 [a b]	51.3	20.5	-30.8***
21 [a b]	55.6	8.3	-47.3***
22 [a b]	58.3	12.5	-45.8***
>=23 [a b]	65.2	17.4	-47.8***
Type of disability			
Difficulty seeing[a b]	38.5	31.6	-6.9
Difficulty hearing [a b]	44.4	25.0	-19.4
Difficulty walking [a b]	66.7	26.3	-40.4**
Difficulty communicating[a b]	57.1	10.0	-47.1**
Difficulty remembering things [a b]	43.2	21.2	-22.0**
Difficulty with self-care [a b]	50.0	0	-50.0
Marginalization characteristics			
Married	58.2	25.2	-33.0***
Had child before the age of 18	55.3	18.3	-37.0***
Orphan	46.4	20.0	-26.4***
Has sick parent [b]	37.8	28.2	-9.6
Likely to be extremely poor[a b]	41.9	9.1	-32.8

Asterisks indicate that differences between baseline and midline are statistically significant at the following levels: *** p<.01, ** p<.05, * p<.1.

[a] The number of observations for the sub-group at baseline is less than 60

[b] The number of observations for the sub-group at midline is less than 60.

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6.4 Life skills: Decision-making skills and menstrual hygiene management

A major intermediate outcome of the ENGINE programme is an improvement in life skills, defined as the ability to take significant decisions in life, have set goals in life and work towards it. The ENGINE II seeks to bridge the huge gap in knowledge of reproductive health (RH) education and skills amongst beneficiaries. Therefore, including menstrual hygiene and management (MHM) as a major component under the life skills curriculum, making improved knowledge and attitude around menstrual health hygiene and management an important intermediate outcome. This section reports data on decision-making skills and MHM knowledge and attitude, with data reported in the girl questionnaire. We also report findings from the qualitative study.

The ENGINE II programme assumes that participation in learning centre sessions would help girls to improve their life skills including menstrual health and management, help them make informed decisions about their life and education. Out-of-school girls would acquire more business-oriented skills to improve their financial outcomes which culminates into successful transition.

To ensure that this is addressed, the project developed life skills manual with context-specific information that girls can easily relate with and use this to facilitate learning sessions at the learning centres. The LCFs are trained on how to use this manual, providing themes and role plays to aid their discussions, clarifying myths and misconceptions that has transcended many generations. They corroborate the life skills sessions with community level activities such as the sensitization and awareness campaigns held to enlighten the population on the benefits of quality education, child rights and protection issues, gender and inclusion, etc. Doing this, helps the programme to achieve its objective targeted as addressing deep-rooted socio-cultural norms that have been prevalent barriers facing marginalised girls and young women in their communities.

Link to Outcomes

This intermediate outcome seeks to measure the percentage of girls who demonstrate increased knowledge on ENGINE II life skills curriculum. This includes the ability to make better decisions, and improved knowledge and attitude around menstrual health hygiene and management. The programme links this intermediate outcome to Outcome 1, learning, Outcome 2, transition, and Outcome 3, sustainability. The programme assumes that improved decision-making skills would allow girls make better decisions that would improve learning and transition outcomes. Additionally, improved life skills would ensure that the changes implemented in girls would be sustained beyond the project's lifespan. The rationale provided by the programme is logical, and the IO is appropriately worded.

Indicators for measurement

This section reports on three key indicators on decision-making skills and MHM knowledge and attitudes. The indicators are defined as follows:

- **Decision-making capabilities for life choices:** This indicator is based on eight statements (d21 – d28) that ask about the extent to which the girl is involved in decision-making, and have three answer options: 'I decide', 'I decide jointly with my family' and 'My family decides'. Girls are considered to have 'good decision-making skills' if they are involved in at least 6 out of the 8 decisions, that is if they select either the first or the second option on at least 6 out of the 8 questions.

- **MHM knowledge:** This indicator assesses girls knowledge of menstruation and MHM. Question e05a assesses how many key facts the girl knows about menstruation (out of a total of 10 facts). Examples include *'Menstruation is the flow of blood from the uterus', 'The average menstrual cycle is 28 days'* and *'A period lasts for 5 days on average'.* The facts that were listed are all covered in the ENGINE II Essential Life Skills manual. An MHM knowledge index was created, ranging from 0 to 10 and representing the number of facts about menstruation that the girl was able to name. In addition, a binary indicator was created. On this indicator, girls are considered to have good MHM knowledge if they were able to name at least 3 facts about menstruation. This indicator was introduced at midline and there is no comparable baseline indicator.[45]
- **Attitude towards MHM:** This indicator assesses whether girls demonstrate a positive attitude towards MHM. This is based on the number of myths / taboos around menstruation that the girl does not believe in. The indicator was developed based on myths around menstruation discussed on the ENGINE II Essential Life Skills manual. Girls were asked whether they agree or disagree with five statements:
    - *'A girl is wayward if she starts menstruating and is not married'* (disagreement is counted as positive attitude)
    - *'There are some types of food that you cannot eat during menstruation'* (disagreement is counted as positive attitude)
    - *'Exercise is bad when you are menstruating.'* (disagreement is counted as positive attitude)
    - *'With proper menstrual hygiene a girl will not contaminate food because menstruation is normal and natural.'* (agreement is counted as positive attitude)
    - *'You can get pregnant if you have sexual intercourse during menstruation.'* (agreement is counted as positive attitude)

  This indicator was introduced at midline and there is no comparable baseline indicator.

The analysis presented in this section is based on a combined panel sample of ISG and OSG. Baseline values for all indicators are recalculated for this sample to ensure comparability between baseline and midline values.[46]

6.4.1 Key findings against the Logframe indicators

The Logframe indicators for girls' decision-making and MHM are outlined in Table 76. For indicator 4.1 (% of girls demonstrating decision-making capabilities for life choices), there has been no increase between baseline and midline, and the intervention has fallen short of achieving its midline target of 65%.

With regards to MHM indicators 4.2 and 4.3 on knowledge and attitudes respectively, we do not have a comparable baseline measure. At midline the percentage of girls reporting 'good' levels of MHM knowledge (measured as the percentage of girls who could name at least 3 facts about menstruation) was low at 11.8%. The percentage of girls with improved attitudes towards MHM (measured as the percentage of girls who did not believe at least 4 out of 5 myths) was also low at 39.2%.

[45] At baseline, girls were asked about a smaller subset of the key facts that were asked about at midline. However, the question included a skip pattern and was only asked to girls who responded positively to the question 'Has your understanding of menstruation changed since you first learned about it?'. This means that the group of girls to which the question was asked at baseline and midline is not comparable.

[46] As a result, baseline values may sometimes differ from those reported in the ENGINE II Baseline Report.

Table 76: IO Logframe indicators for decision-making and MHM

IO	IO indicator	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
Life Skills	4.1 Percentage of girls demonstrating decision making capabilities for life choices	52.3%	65%	51.9%	N	80%	Y
	4.2 Percentage of girls reporting good knowledge around menstrual health hygiene and management (MHM)	N/A	BV + 10%	11.8%	N/A	BV + 30%	Y
	4.3 Percentage of girls demonstrating improved attitude towards menstrual health hygiene and management	N/A	BV + 10%	39.2%	N/A	BV + 30%	Y
Additional comments							
Qualitative findings show that the girls exhibit increased knowledge on ENGINE II life skills curriculum at midline. Most of the respondents – girls, their teachers, parents, gatekeepers or other indirect beneficiaries reported that since the girls have become more aware and knowledgeable about these skills and their application to real life issues, their interpersonal relationship with others have greatly improved. Girls make better and informed decisions about their life, their education or businesses with a long-term effect at becoming better persons in whatever endeavors they choose to pursue in life. In the same vein, with improved knowledge of menstrual health and hygiene management, myths and misconceptions about this subject have been unbundled and clarified. Girls boldly declared that they maintain good hygiene during menses and are confident to talk to their peers who are still uninformed on the right facts pertaining to MHM.							
Reflections and targets							
The indicators are fit for purpose and measurable. IO 4.1. It is recommended that the endline target is adjusted downwards given the achievement at midline. IO 4.2. and IO 4.3. Endline targets should be set based on the midline values.							

6.4.2 Decision-making skills

This subsection deals with the extent to which girls are involved in making decisions related to themselves. The results are reported in Table 77. Note that we do not present additional impact analysis on decision-making skills because the questions on decision-making skills are already included in the overall life skills index presented in Chapter 3. Instead, in this section, we examine in more detail responses to individual questions around decision-making.

In intervention areas, there has been negligible change between baseline and midline in girls' extent of involvement in decision making. For decisions around school attendance and continuation, and marriage, less than 50% of girls report at-least partial involvement. However, for employment, free-time and monetary expenditure related decisions, greater than 60% of girls report at-least partial involvement. In fact, more girls reported sole involvement in decisions around how to spend their money at midline relative to baseline (52% to 59%). Changes in decision-making were, however, more apparent in control

areas. Girls in control areas were reported to have lower involvement by midline on a number of decisions such as whether or not to go to school, continuation in school past the year, and the frequency of time spent with friends.

Table 77: Girls involvement in making decisions

Factor	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)	Source
N	451	451	415	415	
Has good decision-making skills (at least partially involved in at least 6 out of the 8 decisions)	52.33	51.88	49.64	47.95	
Whether or not will go to school					GQ_D21
I decide	19.73	22.17	24.82	24.1	
I decide jointly with family	36.59	31.93	29.88	24.34*	
My family decides for me	43.68	45.9	45.3	51.57*	
Continue in school pass this year					GQ_D22
I decide	20.18	21.95	25.3	23.61	
I decide jointly with family	33.92	28.82*	27.71	23.13	
My family decides for me	45.9	49.22	46.99	53.25**	
At what age you will get married					GQ_D23
I decide	27.27	27.27	31.57	32.05	
I decide jointly with family	21.06	20.84	16.14	14.7	
My family decides for me	51.66	51.88	52.29	53.25	
Work after finishing school					GQ_D24
I decide	32.15	35.92	35.9	39.04	
I decide jointly with family	29.93	26.16	21.2	19.76	
My family decides for me	37.92	37.92	42.89	41.2	
Type of work after school					GQ_D25
I decide	39.91	43.9	44.1	47.23	
I decide jointly with family	31.26	24.83**	19.52	17.59	
My family decides for me	28.82	31.26	36.39	35.18	
How you spend free time					GQ_D26
I decide	54.77	51.44	56.39	57.59	
I decide jointly with family	19.51	21.06	17.83	14.94	
My family decides for me	25.72	27.49	25.78	27.47	
How often you spend time with friends					GQ_D27
I decide	52.11	53.22	59.76	55.42	
I decide jointly with family	19.51	20.4	17.11	15.18	
My family decides for me	28.38	26.39	23.13	29.40**	
How you spend your money					GQ_D28
I decide	51.88	58.76**	60.24	60.48	
I decide jointly with family	21.73	20.62	16.39	15.18	
My family decides for me	26.39	20.62**	23.37	24.34	

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

Findings from the qualitative research in all the states show that the girls' ability to communicate and negotiate, their overall confidence and their ability to be assertive had improved. All respondents attributed these changes to the skills they had learnt during the ENGINE programme.

"I used to be the shy type and not bold enough to express myself but now I can voice out my opinions without being shy or scared." **OSG, FCT**

"Sara has become quite confident as she usually can chat and discuss quite comfortably with customers and other apprentices in her working place." **ENGINE girl employer, Odo Obora, Lagos**

For some girls, the confidence to speak up and the belief in their ability to communicate effectively has encouraged them to be more independent from their parents, and to make important decisions about their education:

"The decision to buy a form and register for JAMB (Joint Admission and Matriculation Board) examination came solely from my daughter and the family had to support her to achieve it." **SBMC member and father of one of the girls**

"There is serious competition amongst the girls when it comes to education, going to higher institutions and how to be independent. They decide on their own with little or no encouragement from their parents." **Gatekeeper Bwari, FCT**

Community members also reported that girls have increasingly demonstrated willingness to contribute to discussions in the community and during religious gatherings. They are more vocal and contribute during important discussions.

"Girls in my community are trying to overtake the boys, they speak out and relate with the chief and his executives more than the boys. The boys are more interested in negative vices like alcohol and cultism and the girls have picked up the challenge to go to school, speak up and contribute to the society. Even in the church, during traditional sittings they speak out more things these days. if the boys do not take their time, they will be following the girls at the back. They have started speaking up well and I encourage them to voice out." **Gatekeeper, AMAC, FCT**

"Increase in education and literacy level has helped the girls in his community to be able to discuss freely with their husbands and in the gatherings/meetings. When they converge for a meeting with the traditional leader, they are able to discuss freely and also share their fears and challenges freely. The girls are also eager and willing to contribute freely to the community in ways within their means and they are able to persuade and communicate with confidence to their husbands on the importance of allowing them to attend classes." **Community leader, Kaduna.**

Therefore, while the quantitative data does not show any changes in the extent to which girls are involved in decisions affecting their education and their lives, the qualitative data does suggest that girls feel more confident and able to make their voices heard in many circumstances, including some related to their education.

6.4.3 MHM knowledge

Table 78 shows how girls in intervention and control groups responded to questions about MHM knowledge. Girls were asked to name facts that they know about menstruation. The results show that few girls are able to spontaneously name key facts about menstruation – although it is possible that girls may have known the correct answer to some of these facts if they had been posed as direct questions (for example, *'how long does the menstrual cycle last?'*). The most commonly known facts were that menstruation usually happens once a month, and that it is the flow of blood from the uterus / a woman's body. All other facts were known by only a minority of girls.

Girls in the intervention group can name an average of 2 facts about menstruation, and only 11.8% of girls were able to name 3 or more facts. There are no differences between the intervention and control groups on the overall MHM knowledge index, but there are particular items on which girls in the intervention group demonstrate better knowledge than girls in the control group. Fewer girls in the control group reported the correct duration of the average menstrual cycle relative to intervention area girls (8% control; 13% intervention), and fewer girls in the control group know that menstruation is controlled by hormones. It is important to note that these differences cannot be attributed to the intervention from this data, given that baseline information for these indicators are unavailable. Overall, the findings suggest that knowledge about MHM remains relatively poor at midline, and there is no indication that girls in the treatment group have better knowledge of MHM compared to girls in the control group.

Table 78: Knowledge of menstrual health and hygiene

	Intervention (Midline)	Control (Midline)	Source
Named the following key facts about menstruation			
Menstruation is the flow of blood from the uterus/a woman's body.	49.0	48.0	GQ_E05a_1
It usually happens every month	62.8	60.5	GQ_E05a_2
It prepares the body for pregnancy	17.7	21.2	GQ_E05a_3
It is controlled by hormones/body chemical	3.3	1.5*	GQ_E05a_4
Ovulation is when the egg/ovum leaves the ovary once a month	3.1	1.9	GQ_E05a_5
During ovulation, I can get pregnant	9.3	7.2	GQ_E05a_6
Menstruation starts at puberty	26.8	26.8	GQ_E05a_7
The average menstrual cycle is 28 days	12.9	7.7**	GQ_E05a_8
The time between one period to another is called menstrual cycle	3.8	3.6	GQ_E05a_9
A period lasts for 5 days on average	26.8	24.1	GQ_E05a_10
Average number of facts about MHM that girl can name (out of 10)	2.2	2.0	
Good MHM knowledge (knows at least 3 out of the 10 facts)	11.8	14.5	

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

6.4.4 MHM attitudes

Out of the 5 myths/taboos, the average girl did not believe in 3.2 of these myths in the intervention group, while 39% of girls in the intervention group did not believe in at least 4 of the myths (meaning that she believed in only 1 myth or none of the myths) (Table 79). Looking at the individual statements shows that some myths around menstruation have been dispelled for most girls, while others continue to be believed by many girls. In the intervention group, 90% of girls agree that menstruation is normal and natural, and does not contaminate food with proper hygiene. On the other hand, the majority of girls still believe that there are certain food types that should be eaten during menstruation and that exercise during menstruation is bad. There are few differences between intervention and control groups. Overall, while certain myths around menstruation have been dispelled, others continue to be commonly believed, and there is no indication that girls in the intervention group have more positive attitudes towards MHM compared to girls in the control group.

Table 79: Attitude towards MHM

	Intervention (Midline)	Control (Midline)	Source
Agrees / disagrees with each statement			
Disagrees that a girl is wayward if she starts her menstruation when she is yet to be married	74.9	69.4*	GQ_E05B2
Disagrees that there are certain food types to be eaten when one is menstruating	38.4	36.9	GQ_E05B3
Disagrees that exercise is bad during menstruation	49.2	42.7*	GQ_E05B4
Agrees that menstruation is normal and natural, and would not contaminate food with proper hygiene	90.0	89.9	GQ_E05B5
Agrees that she can get pregnant if she has sexual intercourse during menstruation	69.4	71.8	GQ_E05B6
Number of myths/taboos that girl does not believe in (out of 5)	3.2	3.1*	
Good MHM attitudes (does not believe in at least 4 out of 5 myths)	39.2	34.7	

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

During the FGDs, we explored if girls have seen any changes in their MHM since the ENGINE II programme started. Consistently across board, it can be deduced that the girls' attitude and disposition to menstrual hygiene have improved, and that they understand menstruation to be a natural and biological phenomenon in a female. They explained in their own words that they used to believe that one can get pregnant just by going close to a man once menstruation commences but they now know it takes sexual intercourse for one to get pregnant. A good number of them had also stated that they can now better predict when the menses would start which allows them to be better prepared.

6.5 School governance and management

For ENGINE II to sustain its outcomes, it is necessary to obtain a continuous support and uptake of programme activities by the schools' governance structure. To measure this outcome, we collected data from several sources including the girl questionnaire, household questionnaire, school survey, School Based Management Committees (SBMC) questionnaire, and during the qualitative study conducted across different group.

The programme engages with the governance structures in schools and communities in two main ways, first is by carrying out sensitization and awareness campaigns within their localities to help them as gatekeepers, community influencers, primary caregivers understand the benefits of quality education, especially for the girl child. Also, the programme trains committee members of the SBMC or CAC on gender and child protection issues, facilitating enrolment and attendance, resource mobilization, to mention a few. This in a bid to support them in their endeavour to make schools and their communities a conducive environment for marginalised girls and boys to thrive in.

One of the ways the programme engages with the SBMC in schools is to empower them with adequate knowledge and skills to be able to identify socio-cultural norms, issues of economic importance, child protection, socially attributed gender roles, etc. that may be a barrier to successful learning and transition among learners, especially the marginalized girls.

The programme sensitizes the masses – government, parents and caregivers, traditional and religious leaders, to mention a few on the barriers facing marginalised girls and how to address them. One of the ways the programme is working with its partners and stakeholders is the development of the Child and Vulnerable Adult Protection protocol to standardise the report and referral processes of any child abuses case in all the implementation states. This is a policy document that has been shared with state governments and being adopted for wider circulation beyond the implementation areas in each state.

Also, the programme trains SBMC members to be aware and understand how to address child protection issues at the school/community level. The school has its code of conduct and where it was not available or rightly worded to address bullying, harassment of any kind or safety issues that pertains to the marginalised girls, the programme supports the committee and/or school to develop and enforce the use of the code of conduct at school.

Link to Outcomes

This intermediate outcome seeks to measure SBMCs and PTAs that take actions to make school an enabling and supportive environment for both girls and boys. This includes taking actions to make the school an enabling environment and demonstrating improved awareness of key barriers faced by marginalized girls and boys. The programme links this intermediate outcome to Outcome 3, sustainability. The programme assumes that by creating a supportive environment, sustainability of the program's activities can be ensured. A supportive environment is defined by activities such as providing childcare so girls can attend school/trainings, following up with households where girls are not attending school, improving school sanitation and safety systems for girls, putting a code of conduct in practice, taking action against harassing and bullying. Moreover, it assumes that improving the school governance's awareness of barriers would ensure that it takes steps to address them beyond the program's lifespan. The rationale provided by the programme is logical, and the IO is appropriately worded.

Tools for Measurement

The Logframe indicators are defined and measured as follows:

Indicator 5.1, the percentage of SBMCs/PTAs that have taken action to make school an enabling environment is based on SBMC/PTA members confirming that they have taken action to make school a more conducive environment for girls to learn in the last 12 months.

Indicator 5.2, the percentage of SBMC/gatekeepers demonstrating knowledge of key barriers faced by marginalised girls and boys is measured as the percentage of SBMCs who could name at least two barriers that particularly affect girls in the community and name at least two actions that the SBMC has taken to mitigate these barriers.

Indicator 5.3, girls with good knowledge of child and vulnerable adult protection and Gender issues is measured through two separate indicators given that the indicator refers to two separate topics that were measured in different ways in the questionnaire. Girls' knowledge and perception of gender issues is based on their level of agreement with 8 statements (d29 – d36) that relate to knowledge and perceptions of gender differences, such as*' A man or woman can be a leader within a community or group of people'* or *'Physical distinctions are inherited from one's parents while gender roles are not.'* Girls were considered to have good gender knowledge/perception if they strongly agreed or agreed with at least 5 out of the 8 statements (all statements were positively phrased). Girls knowledge of child and adult vulnerable protection is measured by the extent to which girls are able to name basic human rights. Girls are considered to have good knowledge of child and adult vulnerable protection if they are able to name at least three basic human rights (out of 10 possible answer options). The list of basic human rights was extracted from the ENGINE II 'Essential life skills' manual.

6.5.1 Key findings against the Logframe indicators

At baseline 62.2% of SBMCs/PTAs reported that they had taken action to make school a more conducive environment for girls to learn. This has increased to 69.2% at midline, which falls short of the 30%-point improvement that was set as the midline target. While the improvement achieved by SBMCs on this indicator is relatively small, it should also be noted that the target set was ambitious. The endline target needs to be revised downwards given the high value of the indicator at baseline.

At midline, 53.9% of SBMCs were able to name at least two barriers that particularly affect girls in the community as well as name at least two actions that the SBMC has taken to mitigate these barriers. The percentage of CBMCs who met this indicator was lower at 32.0%. This indicator was not measured at baseline and we can therefore not compare the change to baseline.

At midline, 96.7% of girls demonstrated good knowledge and perception of gender issues. In addition, 44.1% of girls demonstrated good knowledge of child and vulnerable adult protection at midline, meaning that they were able to name at least three basic human rights. A higher percentage of ISG (50.0%) were able to do this compared to OSG (40.0%). These two indicators were not measured at baseline and we can therefore not compare the change to baseline.

Table 80: IO Logframe indicator on SBMC actions to make schools conducive for learning

IO	IO indicator 5.1	BL	ML Target	ML	Target achieved? (Y/N)	Target for next evaluation point	Will IO indicator be used for next evaluation point? (Y/N)
SBMC	5.1 Percentage of SBMCs/PTAs that have taken actions to make school an enabling environment	62.2%^	BL + 30%	69.2%	N	BL + 50%	Y
	5.2 Percentage of SBMCs/gatekeepers demonstrating knowledge of key barriers faced by marginalized girls and boys.	N/A	BL + 30%	SBMC (ISG): 53.9% CBMC (OSG): 32.0%	N/A	BL + 50%	Y
	5.3: Percentage of girls and young women demonstrating good knowledge of Child and Vulnerable Adult Protection and Gender issues	N/A	BL + 30%	Gender knowledge: All girls: 96.7% ISG: 96.2% OSG: 97.0% Knowledge of basic human rights: All girls: 44.1% ISG: 50.0% OSG: 40.0%	N/A	BL + 50%	Y
Main qualitative findings							
FGD sessions with the SBMC/PTA members suggest that SBMC/PTAs are active in the day-to-day governance of the school by facilitating the provision of facilities like furniture, access roads and teacher incentives to mention a few. This is done to make sure that the girls, their teachers and the school authority feel comfortable to learn in their environment. This is a strong indication for sustainable actions that will transcend the life of ENGINE II programme. FGD sessions with the SBMC/CBMC/PTA members suggest that they are aware of key challenges that marginalised girls in their community face. The Child Protection and Vulnerable Adult protocol (CVAP) is a work in progress as some states are yet to finalise the document while some have done so and are deploying it when addressing gender and child protection issues in their immediate environment.							

During the FGD sessions with girls, common forms of child protection and gender issues that marginalised children and vulnerable adults experience include deprivation of one's right to good education, sexual or domestic violence and child labour. KIIs informed that at the school level, some policies and measures have been put in place to address issues of bullying, harassment and child safety, however at the community level, written policies were hardly found. Nevertheless, a few community-based committees affirmed to be involved in ensuring safety and protection of their people, especially those that are vulnerable. This depicts that there is room for improvement in the establishment and enforcement of protocols both at the school and community levels to address child protection and gender-based issues.
Reflections and targets
IO 5.1. This indicator is fit for purpose and measurable. The endline target should be adjusted. IO 5.2. This indicator is fit for purpose and measurable. The endline target should be adjusted. IO 5.3. Gender knowledge: Given this very high value at midline, the indicator could be revised (for example to set a higher threshold for agreement on the scale) to allow more room for change. The current endline target will need to be revisited given the high value of the indicator at midline. The ENGINE team should also reflect on whether improvements on this indicator are likely to be achieved as a result of the programme. If, in light of the high rates observed at midline on this indicator, ENGINE decides to target resources at gender-related issues that are not captured by this indicator, it would be appropriate to change the indicator. Knowledge of child and vulnerable adult protection: The extent to which the indicator remains relevant at endline depends on whether ENGINE will continue to target improvements in girls' knowledge of their rights, or whether with the adoption of the CVAP protocols at the state-level, other activities around child and vulnerable adult protection take priority. If the indicator remains relevant, it is measurable; and the endline target should be adjusted based on the midline values on the indicator.

Note: In the ENGINE Baseline Report, this value was reported as 13.3% due to an error in the calculation of the indicator. Given that the performance on this indicator is substantially higher than originally reported, the ML target should be reconsidered. Indicators 5.1 is limited to SBMCs and does not include CBMCs. Indicator 5.3 is based on the panel sample of ISG and OSG.

6.5.2 Impact of ENGINE II on school governance

At midline, the evaluation assessed the impact of ENGINE II on how these governance systems function in their respective schools.

As discussed in the previous section, there was a small increase in the percentage of SBMCs that took action to make school an enabling environment in the intervention group, but this change over time is not statistically significant. There was a small decrease on this indicator in the control group, which was also not statistically significant. Overall there is a 7.6%-point improvement on this indicator over and above the control group. This does not reach statistical significance, although the sample size for the analysis is small and the sample may not be sufficiently powered to detect this effect.

Table 81: Impact of ENGINE II on school governance

Variable	Baseline intervention (%)	Midline intervention (%)	Diff baseline to midline intervention (% point)	Baseline control (%)	Midline control (%)	Diff baseline to midline control (% point)	Diff-in-diff (Intervention – control) unadjusted (% point)	Diff-in-diff (Intervention – control) adjusted (% point)
Percentage of SBMCs/PTAs that have taken actions to make school an enabling environment	64.4	69.2	4.8	61.4	59.0	-2.4	7.2	7.6

6.5.3 Actions taken by the SBMC to make school a conducive environment

In this section, we further explore findings related to the first Logframe indicator on the extent to which SBMCs have taken action to make schools a conducive environment.

As has been discussed above, at midline, 69% of SBMCs in the intervention group carried out actions to make the school a conducive environment. However, only about half of the SBMCs that had carried out such actions were able to show any evidence of the actions they had conducted. Common actions that the SBMC reported taking at midline to make the school a more conducive environment included renovating existing school infrastructure and building new infrastructure.

In addition to taking action to improve the school environment, 79% of SBMCS in the intervention group at midline reported that they had taken action to improve attendance in the current school year, which is a slight increase from baseline. Again, only about half of these SBMCs were able to show any evidence of the action they had taken. By far the most common action taken on attendance was to discuss attendance issues with parents / guardians (reported by close to 90% of SBMCs at midline). About a fifth of SBMCs in the intervention group reported that they were providing financial support to students, which is an increase from 9% at baseline.

Lastly, 68% of SBMCs in the intervention group reported taking action to improve teaching quality at midline, a small increase from baseline. At midline, the most common actions taken in the intervention group to improve the teaching quality were to recruit new teachers, providing stipends to teachers and providing teaching and learning materials.

Table 82: SBMC/PTA activities to facilitate conducive learning environment in school

	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)	Source
Carried out action to make school a conducive environment	64.4	69.2	61.4	59.0	SB_c03
Evidence available of action carried out on making school a conducive environment*	52.9	51.4	41.1	67.7**	SB_c03b
Carried out action to improve attendance	71.1	78.9	77.2	66.7	SB_c01
Evidence available on action carried out to improve attendance*	53.1	53.3	47.1	53.8	SB_c01b
Carried out action to improve teaching quality	64.4	68.4	62.8	59.0	SB_c02
Evidence available on action carried out to improve teaching quality*	48.3	50.0	51.9	65.2	SB_c02b

Note: *These indicators are reported only for SBMCs who had reported taking action in the given area.

As determined during the baseline survey, the governance structures put in place for the out-of-school population are the Community Action Committee (CAC) also referred to as Community-Based Management Committee (CBMC) in places. The table below presents the comparison between the results of the intervention groups at baseline and midline when CAC/CBMC members were asked about any activities they had conducted in the past year in order to make the learning centre/community more conducive and improve school quality.

The proportion of CBMCs who carried out action to make school a conducive environment has increased since baseline. However, fewer CBMCs reported carrying out actions to improve attendance and actions to improve teaching quality at midline compared to baseline. Generally, few CBMCs are able to show evidence of actions they have carried out.

At midline, the most common action taken to make the learning centre a conducive environment was to improve security and to renovate existing infrastructure. The most common action to improve attendance was to discuss with parents, followed by organising meetings with community meetings and doing community sensitisation by going door-to-door. The most common actions taken improve learning outcomes were to monitor students' and teachers' attendance.

Table 83: CBMC activities to facilitate conducive environment for OSG

	Intervention (Baseline)	Intervention (Midline)	Source
Carried out action to make school a conducive environment	71.4	84.0	SB_d03
Evidence available of action carried out on making school a conducive environment*	30.0	19.0	SB_d03b
Carried out action to improve attendance	57.1	52.0	SB_d01
Evidence available on action carried out to improve attendance*	25.0	23.1	SB_d01b
Carried out action to improve learning outcomes	50.0	40.0	SB_d02
Evidence available on action carried out to improve learning outcomes*	42.9	20.0	SB_d02b

Note: *These indicators are reported only for CBMCs who had reported taking action in the given area.

In the qualitative research, respondents discussed the conduciveness of the learning environment in the learning centre, and respondents voiced different opinions. Some respondents felt that the learning centres provided a good environment for the ENGINE II classes.

"The environment is quiet and it is not close to residential houses and there are enough classes and chairs. The ENGINE classes are not congested and the students are few in number and the teacher knows the student even by name and that makes learning, teaching and communication easy". **Engine School Principal, Kaduna**

Others pointed out several shortfalls. Infrastructural constraints were one of the main challenges mentioned by girls and some mentors affecting meetings in the ENGINE II learning centre. Space is already at a premium for many schools and there often is not enough room to accommodate the students except science laboratory or a computer lab. In some other schools where shifts are running, it is difficult to get an empty space for meetings to be held conveniently without disruption from a group wanting to use the space.

"We use the government secondary school and it is not conducive because the place is open to everybody. Boys play football here, smoke and have cult meetings here. So, most times, we don't stay late to avoid issues of harassment like rape, though the boys don't disturb the girls, but we have to be careful in order to avoid any issues" **OSG Teacher, FCT**

Follow up discussions with the SBMCs, PTAs and CAC/CBMC around governance issues points to the fact that most of the schools as well as the SBMCs, PTAs and CAC/CBMCs have implemented measures to contribute towards school development whilst tackling barriers faced by students. A few direct quotes from some of the respondents are quoted below:

"The management does everything to make them comfortable, like grading the road to the school for easy accessibility and clearing a dumpsite opposite the school. The management appraises the teachers and rewards them appropriately which makes them strive to be better teachers. But the school does not have enough teaching resources which affects the assimilation rate of learners". **Teacher, Jikwoyi, FCT**

"They monitored the activities of the teachers. They also ensured that the teachers were not lacking anything. Whenever there is no teacher for a particular subject, the SBMC follows up with the Ministry of Education to ensure that issues are resolved within the shortest period of time". **All Executive members of the PTA, Kano**

6.5.4 The SBMC's role in addressing community-based attitudes and school drop-out

Barriers to education and actions to mitigate them

Overall, as discussed above, 53.8% of SBMCs and 32% of CBMCs in the intervention group could name at least two barriers that particularly affect girls in the community and at least two mitigation actions that the SBMC/CBMC had taken to address these. The percentage of SBMCs in control schools who meet this indicator is similar to the SBMCs in the intervention group.

Of the barriers to girls' education, SBMCs most commonly named cultural norms as a barrier, while CBMCs most commonly named limited literacy.

Table 84: SBMCs and CBMCs knowledge of barriers and mitigation actions

	Intervention ISG SBMC (Midline)	Control ISG SBMC (Midline)	Intervention OSG CBMC (Midline)	Source
Barriers to girls' education				
Names cultural norms as a barrier	56.4	69.2	44.0	SBQ_g06
Names religious norms and obligations as a barrier	46.2	38.5	44.0	
Names social expectations, beliefs and practices as a barrier	28.2	56.4	44.0	
Names limited literacy as a barrier	46.2	41.0	56.0	
Mitigation actions of barriers to girls' education				
Resource mobilization for school improvement	20.5	35.9	20.0	SBQ_g07
Community sensitization	59.0	53.9	48.0	
Providing support and motivation for teachers and learners	28.2	30.8	16.0	
Providing safety for teachers, learners and school property	30.8	18.0	28.0	
Oversight functions on fund allocation and utilization for school improvement	2.7	10.3	0	
Engage with local and state government authorities	5.1	10.3	12.0	
Engage with philanthropists	20.5	10.3	0	
Enforce school code of conduct	15.4	12.8	8.0	
Address issues of abuse / safeguarding	25.6	12.8	24.0	
Allocation and utilization of funds for school improvement	7.7	7.7	4.0	
Summary indicator				
Names at least two barriers and two mitigation actions taken by the SBMC	53.8	51.3	32.0	

Efforts to ensure dropped-out girls return to school

Table 85 shows effort by the SBMC, CBMC and the school to ensure that dropped-out girls return to school. A high percentage of the SBMCs in the intervention (74%) and control populations (80%) reported that they had discussed with the parents/guardians to allow their wards to come to school. A lower proportion of CBMCs had discussed this with parents. CBMCs were however more likely than SBMCs to have spoken directly with girls to encourage them to return to school. The differences between the actions taken by SBMCs in the intervention and control group were small.

Also, presented in the table is the effort of the school to ensure that dropped-out girls return to school. Schools were less likely to have discussed drop-out with parents/guardians compared to SBMCs/CBMCs, but a higher percentage had provided financial support to students in both intervention and control groups.

Table 85: SBMC, CBMC and school efforts to ensure dropped-out girls return to school

	Intervention ISG SBMC (Midline)	Control ISG SBMC (Midline)	Intervention OSG CBMC (Midline)	Source
Community efforts to ensure dropped-out girls returned to school				
Discussion with parents/guardians to allow students to come to school	74.4	79.5	52.0	SBQ_04
Provide financial support to students	23.1	20.5	28.0	
Provide textbooks, exercise books and stationery free of charge	10.3	10.3	8.0	
Provide uniforms free of charge	5.1	12.8	4.0	
Provide free food in school	0	2.7	4.0	
Speak directly with girls to encourage them to come to school	35.9	38.5	44.0	
Provide girl-friendly environment	10.3	5.1	16.0	
Provide counselling unit that girls can go to when they have problems	20.6	20.5	16.0	
School effort to ensure dropped-out girls returned to school				
Discussion with parents/guardians to allow students to come to school	30.8	27.8		SQ B13a
Provide financial support to students	34.6	33.3		
Provide textbooks, exercise books and stationery free of charge	3.9	16.7		
Provide uniforms free of charge	11.5	16.7		
Provide free food in school	7.7	5.6		
Speak directly with girls to encourage them to come to school	19.2	5.6		
Provide girl-friendly environment	0	0		
Provide counselling unit that girls can go to when they have problems	23.1	5.6		

Household perception of girls' education

Part of the work of the SBMC and the school governance bodies is to sensitise parents around the value of girls' education and ENGINE II supports this change in community-based attitudes becoming more supportive of girls' education. Table 86 shows views of the caregivers on girls' education. In both the intervention and control groups, the percentage of caregivers who listen to the girl before making decision about her education has increased slightly from baseline, although the changes are not statistically significant. On the other hand, the percentage of caregivers who agree that it is worth investing in girls' education even when funds are limited and who agree that girls are as likely to use their education as boys has decreased significantly compared to baseline in both the intervention and control groups.

Even though over 90% of caregivers believe that it is worth investing in girls' education even when funds are limited, 31% of caregivers (in the intervention group at midline) also believe that it is acceptable not to send their child too school if education is too costly. This is the most common reason in both the intervention and control groups why caregivers feel it is acceptable not to send children to school. Other acceptable reasons for not sending children to school that were given by about 15% of caregivers were if the child is married, is a mother or if the child is unable to learn.

Table 86: Household perception of girls' education (panel sample, ISG and OSG)

	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)
Girls view before decisions about her is made				

	Intervention (Baseline)	Intervention (Midline)	Control (Baseline)	Control (Midline)
Listen to girl before decisions on her education are made	77.4	83.6	84.8	89.0
Strongly agree or agree that it's worth investing in girls' education even when funds are limited	98.9	94.0**	98.3	91.9***
Strongly agree or agree that girls are as likely to use their education as boys	96.2	90.2**	96.6	93.1
Conditions acceptable for ward not to go to school				
The child may be physically harmed or teased at school or on the way to/from school	18.8	14.8	19.0	13.6**
The child may physically harm or tease other children at school	12.2	7.7**	9.2	6.9
The child needs to work	5.8	6.6	16.8	5.0***
The child needs to help at home	5.5	5.7	1.7	3.7
The child is married/is getting married	14.4	14.8	11.3	15.6*
The child is too old	5.5	5.2	6.3	4.2
The child has physical or learning needs that the school cannot meet	10.4	10.7	7.5	6.9
The child is unable to learn	10.6	15.2**	8.9	15.1***
Education is too costly	29.9	30.9	41.9	38.1
The child is a mother	18.8	14.8	19.0	13.6**
Child must take care of a sick or incapacitated household member	7.5	6.1	5.5	9.6**

6.5.5 Child protection and gender-based issues

Girls' knowledge and perception of gender issues and child protection

Table 87 shows the percentage of girls who have good knowledge and perception of gender issues, as well as their levels of agreement with each of the questions asked. Overall, as mentioned earlier, the proportion of girls with good knowledge and perception of gender issues is very high in the intervention group at 96.7%. There are no differences between the intervention and control groups on the overall scale. Agreement with almost all of the statements is very high. The statement with the lowest agreement is *'Physical distinctions are inherited from one's parents while gender roles are not.'*

Table 87: Girls demonstrating good knowledge and perception of gender issues

	Intervention (Midline)	Control (Midline)	Source
Percentage of girls who demonstrate good knowledge of gender issues and roles (agrees with at least 5 out of 8 statements)	96.7	95.4	GQ_D29 - 36
Percentage of girls who agree with the statement:			
Gender roles are socially attributed privileges, responsibilities, benefits to a male or female	89.4	87.5	GQ_D29
Human biological features physically distinguish a male from a female	92.9	88.0**	GQ_D30
Both boys and girls can go to school up to tertiary level and acquire good education to become professionals like doctor, teacher, civil servant, accountant, engineer, etc.	98.9	97.6	GQ_D31
A man or woman can be a leader within a community or group of people	95.6	97.8*	GQ_D32
Both boys and girls can support one another to carry out house chores such as sweeping, cooking, fetching water, etc.	94.9	94.9	GQ_D33

	Intervention (Midline)	Control (Midline)	Source
Physical distinctions are inherited from one's parents while gender roles are not.	80.3	81.9	GQ_D34
Example of physical distinction in boys is deepening of voice	96.2	93.0**	GQ_D35
Example of physical distinction in girls is menstruation	98.9	98.3	GQ_D36

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

In the qualitative research, girls differed on the issue of household chores. While some were of the opinion that chores like sweeping, cooking washing dishes and clothes should be done only by girls, others felt the chores should be shared between both girls and boys. Practically they all agreed that most times, these chores being done only by girls, and because of that the general expectation is for girls to grow up perfecting the skills required to carry out these chores.

Table 88 shows girls' knowledge of basic human rights. At midline, 44.1% of girls in the intervention group are able to name at least three basic human rights. The percentage of girls in the control group who are able to do the same is significantly lower. Girls in the intervention group are also able to name significantly more basic human rights on average compared to girls in the control group (2.3 compared to 2.0). The most well-known basic human right is the right to education, named by 69% of girls in the intervention group. Approximately a third of girls in the intervention group could name the right to life, right to liberty and freedom and right to freedom of speech, while all other rights were named by a much lower percentage of girls.

Table 88. Girls' knowledge of basic human rights

	Intervention (Midline)	Control (Midline)	Source
Percentage of girls who can name at least three basic human rights (out of 10)	44.1	35.9**	GQ_D37
Average number of basic human rights that girls can name	2.3	2.0***	
Percentage of girls who named the following basic human right:			
Right to education	69.2	55.7***	GQ_D37
Right to life	32.2	32.3	
Right to liberty and freedom	36.8	32.8	
Right to live your life free of discrimination	7.5	8.7	
Right to control what happens to your own body	9.8	8.7	
Right to freely exercise your religion	7.3	8.2	
Right to be free from prejudice on the basis of race, gender, national origin, colour, age or sex	6.0	3.9	
Right to be free from slavery	6.4	5.1	
Right to freedom of speech	37.0	30.4**	
Right to freedom of thought	19.1	13.3**	

Note: Asterisks indicate that differences are statistically significant at the following levels: *** p<.001, ** p<.05, * p<.01.

Girls were asked about the concept of abuse. Girls expressed their knowledge based on examples or stories they were familiar with rather than a definition.

"People who take children from their parents to work for them and mistreat them or mothers leaving their kids at home without any form of care or step mothers killing their husbands' children are forms of abuse". **OSG, Kaduna**

They emphasised the value of being educated about one's rights:

"It is important to be educated because if you are educated, you will know your rights and you will be able to defend yourself from police brutality". **OSG, Kano**

Girls also identified several aspects related to gender-based violence and negative perceptions of gender roles as barriers that girls in their communities face. Examples included:

- Harassment from boys in the neighbourhood which could come in form sex advances or taunts during hawking
- Lack of care from spouses in the case of married women, especially the under-aged.
- Unwanted pregnancies for the marginalized girl which prevent enrolment in the school.

However, some girls expressed perceptions around abuse that put the blame on the victim.

"Maybe because of her character, she can seduce a man to sexually abuse her." OSG, Kaduna

Activities of school and community governance bodies around child protection and gender

Table 89 shows the engagement of SBMCs in child protection and gender-related initiatives through training and engagement in policy / protocol development at baseline and midline. At midline, a larger proportion of SBMCs reported having received training on gender issues in the last 12 months compared to baseline (43.6% compared to 17.8%). The percentage of SBMCs that reported having received training on child protection was only slightly higher at midline compared to baseline.

At midline, about a fifth of the SBMCs have been trained on the state Child and Vulnerable Adult Protocol (CVAP). By state, the proportion of SBMCs who had received this training was approximately equal in Kaduna and Kano, while no SBMCs in FCT reported having received this training at midline. This is supported by the qualitative research, which finds that whilst the CVAP has been adopted in Kaduna, Lagos and Kano, it was still in process of being adopted in FCT. The qualitative research also suggested that the protocol was as yet not known by all local level education officers or SBMC members with some respondents instead pointing to policy documents developed by other education programmes. For example, in response to a question regarding the CVAP supported by ENGINE II one respondent noted:

"There is a 'school charter' that was developed by the government in collaboration with the ESSPIN programme that is a non-governmental organisation that was once in the state. That charter is the guiding principle for the school but as a SBMC we do not have any policy document". **SBMC member, Kano**

At midline, almost half of the SBMCs interviewed in the intervention group indicated that they had not been involved in the development or enforcement of child protection initiatives in the last 12 months. This indicates that greater sensitisation and/or engagement with SBMCs is needed on this issue. On the other hand, of SBMCs who had been involved in these initiatives, a larger proportion of SBMCs at midline report that these initiatives are developed and in use (as opposed to being in the process of development or developed but not in use). This suggests that SBMCs that have been involved in the development of these initiatives have made some progress towards ensuring that the initiatives are being enforced.

Of the SBMCs that have been involved in the development and enforcement of child protection initiatives, 67% report working on the code of conduct, 52% report supporting the establishment or strengthening of anti-bullying policies and 67% contributed towards protocols for reporting harassment or abuse. This suggests that SBMCs who are involved with these initiatives have often been taking on more than one initiative in the last 12 months.

Table 89: SBMC activities around child protection and gender (ISG, intervention group)

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Training received in the last 12 months			
Received training on child protection	31.1	35.9	SBQ_g01
Received training on gender	17.8	43.6	
Received training on State CVAP protocol	-	20.5	
Received training on Do No Harm protocols	-	23.1	
Child protection initiatives developed or enforced in the last 12 months			
Yes, currently being developed	13.6	10.3	SBQ_e01

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Yes, developed	11.4	2.6	
Yes, developed and in use	29.6	41.0	
No	45.5	46.2	
Evidence of the child protection initiatives developed or enforced			
Yes	58.3	42.9	SBQ_e01b

Table 90 shows the activities that SBMCs (for ISG) and CBMCs (for OSG) in the intervention group reported having engaged in to facilitate equal rights for girls and boys. A larger percentage of SBMCs (75%) reported having engaged in such activities compared to CBMCs (52%). SBMCs and CBMCs who had engaged in such activities commonly reported that they had advocated for girl-child education. Both groups also reported engaging with parents: 61% of SBMCs reported sensitising parents around the disadvantages of early marriage, while 67% of CBMCs reported engaging with parents to foster equality and inclusion in the home. About half of SBMCs and CBMCs reported that they had engaged in activities to prevent abuse based on gender. On average, both SBMCs and CBMCs named approximately 3 activities that they have been engaging in.

Table 90. Activities to facilitate equal rights for girls and boys (intervention group)

	ISG / SBMC (Midline) (%)	OSG / CBMC (Midline) (%)	Source
Engages in activities to facilitate equal rights for girls and boys			
Yes	75.0	52.0	SBQ_g04
Activities to facilitate equal rights for girls and boys*			
Continuously advocate for girl-child education	52.2	75.0	SBQ_g05
Sensitise parents on the disadvantages of early marriage	60.9	25.0	
Ensure they are assigned the same roles at home and in the community	21.7	8.3	
Prevent abuse based on gender	47.8	50.0	
Allow more contribution from women and girls in social gatherings	17.4	16.7	
Allow women and girls to participate more in decision-making in the home	26.1	25.0	
Encourage respect between gender and across age groups in the home/community	34.8	33.3	
Continuous engagement with parents to support and foster equality and inclusion in the home	13.0	66.7	
Serve as mentors and role models to younger folks so they learn to respect one another	26.1	16.7	
Total number of actions reported to facilitate equal rights for boys and girls	3.3	3.2	

Note: * Indicator is limited to those SBMCs and CBMCs that reported carrying out activities to facilitate equal rights for girls and boys.

Table 91 shows the school activities that schools have conducted around child protection in the last 12 months. At midline, 55% of schools had developed and enforced a child protection initiative in the last 12 months compared to only 31% of schools at baseline. Fewer schools compared to baseline have not developed any child protection initiatives at all in the last 12 months. In addition, a larger percentage of schools were able to show evidence at midline of the child protection initiatives they had developed or enforced.

Table 91: School activities around child protection (ISG, intervention group)

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Source
Child protection initiatives developed or enforced in the last 12 months			
Yes, currently being developed	13.3	5.0	SQ_b08
Yes, developed	8.9	5.0	
Yes, developed and in use	31.1	55.0	
No	46.7	35.0	
Type of child protection initiative developed or enforced in the last 12 months			
Code of conduct for students	54.2	65.4	SQ_b09
Anti-bullying policies	33.3	46.2	
Protocols for reporting harassment or abuse	54.2	57.7	
Establish or strengthen school counselling unit	70.8	38.5	
Evidence of the child protection initiatives developed or enforced			
Yes	33.3	42.3	SQ_b

7 Conclusion and recommendations

This section presents findings from the ENGINE II midline survey vis a vis progress against targets and against the baseline evaluation as well as our recommendations for achieving intended results and ensuring sustainability across the community, school and system levels.

The impact evaluation adopts a theory-based mixed-method approach, employing a quantitative panel survey complemented by qualitative research to evaluate the programme across the four states of intervention. The quantitative impact evaluation employs a longitudinal, quasi-experimental approach to support the attribution of changes in intermediate and final outcomes to ENGINE II. The quantitative panel survey is made up of three rounds of survey over twenty months including a baseline (2018), midline (2019) and endline (2020).

Due to higher than expected rates of attrition, in particular for the ISG sample – in part related to some schools supported by ENGINE I not receiving support from ENGINE II – impact analysis for the ISG is conducted on the cross-sectional sample conducted at midline. This cross-sectional sample for ISG has been bolstered with a 'top-up' sample of new ISG interviewed for the first time at midline. For the OSG sample difference-in-difference methods are used to assess ENGINE II programme impact.

7.1 Conclusions

7.1.1 Beneficiary Characteristics and Barriers

This section builds on the findings documented in the first two chapters of this report. ENGINE II is a programme that is targeted at marginalised and excluded populations who are often faced with poor economic and infrastructural facilities, poor access or limited availability to quality education and educational resources, all of which places girls at a disadvantage.

Poverty remains a pivotal challenge that is affecting the learning and transition of girls through key stages in life. Poverty is likely to affect household perception towards education as well as how much they would be willing or can afford to spend for their wards. Girls from poor households were found to travel for long distances to and from school daily. This affects their safety and attendance rates compared to those who are from a more financially stable household. OSGs from poor households were unable to afford tools essential to their apprenticeship or businesses. They are also burdened with household expenses with funds that could have been invested to improve their business.

Safety within and outside school or the workplace was identified by girls as a challenge. Being bullied in the school was mentioned by almost all respondents and considered to have been dealt with lightly. For some girls who stayed back in school to partake in extra classes, travelling through some routes long after the school closing hours places them at risk of being harassed. This is similar for OSGs that have to travel for more than 30 minutes (one-way) every day to their workplace, thus arriving late at work coupled with being faced with harassment on the way.

High chore burdens that girls are faced with daily was also found to be a potential barrier to girls' learning and transition, with just over half of girls reporting a high chore burden. This is mostly so in instances where girls have to earn to cater for their educational expenses and households where the caregivers do not have positive attitudes towards education. Girls who are maids and live with non-relatives or distant family members are also at a disadvantage of being overburdened with house chores.

Inadequate support from teachers was also identified as a barrier that girls are faced with in their learning and transition. There were some girls in school who reported to have felt unwelcomed in class, especially those from poor households. Some others also expressed that their teachers use harsh tone and give them corporal punishment when trying to correct them during lessons. Negative feedbacks and corporal punishments are known to be detrimental to learning as it instils undue fear in learners.

Environmental factors such as heavy rains, farming season or poor weather conditions were also identified as barriers facing girls learning and transition. Both in-school and out-of-school girls were reported to miss school or workplace where there it rains, often common in the farming season. Girls from poor households are made to work on farms and sell farm produce so they can earn some income that can support household living expenses. During the rainy season, girls who walk long distances to school or the workplace do not attend on such days.

The above challenges had been identified by the programme in its theory of change and in turn, they have initiated targeted activities that could mitigate them. This includes community sensitization and awareness campaigns, trainings for school-based management committees or the community action committees so they are aware of the barriers facing girls and can adequately address them. Girls are also trained about important life skills and how to make informed decisions. This will empower them to be self-confident in the face of any harassment or social protection issues. Participation in the learning centres also equip them with soft skills such as effective communication, assertiveness and negotiation skills, etc. which is essential to leading a successful life. Exposure to financial literacy and vocational trainings as an out-of-school girl would empower such girl to know how to save, invest in profitable business, diversify or expand her business venture, being mindful of the economic risks and competitors in her sector or locality.

Consequently, the theory of change remains largely relevant in the context of changes that were observed between the baseline and midline, although a few variations in terms of the indicators used to measure these changes.

7.1.2 Learning outcomes

In this section we draw on the findings presented in chapter 3, which presents the results of the three learning outcomes being targeted by ENGINE II: literacy, numeracy and life skills.

With regards to the literacy and numeracy outcomes we find that only the Logframe target for ISG numeracy has been met, defined as achieving at least a 0.25 standard deviation impact on each learning outcome. Despite this, the evaluation was able to identify a statistically significant impact that is attributable to ENGINE II in numeracy for both ISG and OSG, as well as in literacy for OSG which remains a significant achievement for the programme.

To further unpack progress made against learning for literacy and numeracy it is useful to consider the literacy and numeracy skills gaps across different sub-tasks that remain for ENGINE supported ISG and OSG. For ISG the midline round of evaluation finds that there is a significant reduction in the proportion of girls across all numeracy sub-tasks who either did not attempt each sub-task or whose performance was rated at a *non-learner* level. Despite this improvement, and despite the midline finding that ENGINE II has had a statistically significant and attributable impact on numeracy outcomes, numeracy outcomes remain low across all sub-tasks with more than half of all girls either not attempting a sub-task who whose performance was rated at a *non-learner level*. In terms of literacy, and in line with the evaluation finding no statistically significant impact on literacy for ISG we do not find any significant improvement in the level of learning for either of the sub-tasks implemented. Learning levels in literacy also remain low for ISG with more than half of ISG either not attempting or having a *non-learner* level of performance on the short essay sub-task, with 23% of ISG reporting the same against the comprehension sub-task.

For OSG there was significant improvement on the addition, subtraction, and word problems sub-tasks in numeracy where increasing proportions of girls performed at a *proficient learner* level. However, there still remain gaps in the learning of girls for these sub-tasks which are likely most relevant for their day to day tasks with large numbers of OSG still at *non-learner* or *emergent learner* levels of performance. The midline evaluation finds, significant improvement in performance against almost all literacy sub-tasks with the exception of the non-word sub-task, with statistically significant reductions in the proportion of OSG who performed at a *non-learner* level. Despite this improvement, however, literacy learning outcomes remain low for OSG with significant proportions of OSG remaining at *non-learner* levels across a range of sub-tasks and most particularly for: letter sound identification (53%); comprehension (37%); non-word (33%); and oral reading (33%).

Beyond the literacy and numeracy learning outcomes, ENGINE II is also seeking to improve the life skills of both ISG and OSG, where life skills are defined as those that are necessary for full and active participation in everyday life. These include cognitive skills, personal skills and inter-personal skills. ENGINE II is seeking to have an impact on life skills through the implementation of a bespoke life skills curriculum designed by the programme. Life skills in this evaluation have been measured using a *life skills index* on a set of statements each of which is measured using a Likert scale.

The midline round of evaluation finds that ENGINE II has not met its midline targets for improvements in the life skills index, which is defined as the proportion of girls who score at least 70% on the life skills index for which we do not find any statistically significant change between baseline and midline for either ISG or OSG. However, the rather blunt nature of this binary indicator hides improvements in the achievement of life skills and in particular for girls who had low levels of life skills at baseline, i.e. those who scored significantly lower than 70% on the life skill index at baseline.

As a result, this evaluation also sought to measure the impact of the ENGINE II programme on the full life skill index score itself, i.e. the score prior to conversion to a binary indicator. For each group, ISG and OSG, the midline evaluation finds a statistically significant and attributable impact of ENGINE II on life skills. This finding is certainly supported by the qualitative research which demonstrate the different channels in how life skills have improved for ISG and OSG. For ISG improved life skills have enabled them to better engage with their teachers and peers in class, to communicate more clearly and to make more informed decisions. For OSG improved life skills has improved their confidence to interact with their customers as well as be more assertive.

7.1.3 Transition outcomes

In this section we draw on findings from chapter 4. Transition has been defined separately for ISGs and OSGs. For ISGs successful transition refers to in-school progression, i.e. successfully progressing from one academic grade to the next. Girls who remain in school but who remain in the same grade as they were at the baseline round of research and girls who have dropped out of school are considered to have transitioned unsuccessfully. For OSGs transition refers to those girls who continue to have an active business, those who return to an appropriate level of formal education, or those who engage in TVET.

This evaluation does not find that ENGINE II does not have a statistically significant impact on the proportion of ISGs that successfully transition from one academic grade to the next. However, this is likely in large part because of the already very high rates of successful transition observed at baseline, with high rates maintained at midline with more than 90% of ISGs successfully transitioning.

Whilst an impact on the ISG transition rate could not be identified by the quantitative component of the evaluation, the qualitative research indicated that girls reported mentoring in combination with more intensive support, and in particular reduced class sizes, had enabled girls to better understand the content of lessons and in some cases had encouraged girls to remain in school when they might have otherwise dropped out.

At midline, the evaluation is not able to quantitatively assess the impact of ENGINE II on the transition status of OSGs due to changes in questionnaire phrasing aimed at delivering a more robust and appropriate measure of transition between midline and endline. However, the evaluation finds that the proportion of OSGs who are actively involved in business has decreased significantly in the intervention group between baseline and midline. This will reflect, in part, the harsh reality that many small businesses do not survive their first year of operation, particularly in the context of Nigeria which has witnessed recent poor economic growth. This finding is also likely linked to delays in the roll-out of programme activities. This includes the expected partnership with the MAFITA programme for which a MoU was signed only shortly before the midline round of research, as well as delays to the roll-out of the financial and business education manual which was only rolled-out in the quarter prior to the midline round of research.

In addition to programme delays the midline round of research found evidence of the implementation of programmes with similar objectives to ENGINE II, which may have affected the ability of key partners to deliver on ENGINE II activities. There is also evidence that some of these other programmes have been implemented in control areas of the evaluation which is therefore likely to have affected the ability of evaluation to detect impact on transition for OSGs.

7.1.4 Sustainability outcome

In this section, we draw on findings presented in chapter 5. ENGINE II's approach to sustainability is centred around engagement with stakeholders at the community, school and system level.

At the school level ENGINE II seeks to reinforce positive school leadership and deepen the understanding of the value for education for all. This includes the identification of and investment in ENGINE teachers and LCFs who are expected to take a lead role in the adoption of learner-centred teaching methodology through a training of trainers approach.

At the community level ENGINE II provides significant investment through training, sensitisation, and mentoring of members of the School/Community Based Management Committees. These committees are expected to play a lead role in the efforts to support a gradual and continued change in the attitudes of communities and parents towards schooling, as well as providing lasting support to schools and pressure on schools to perform.

At the systems level ENGINE II recognises the need to support change at the grassroots level through government mainstreaming to achieve systemic change and has committed to generating high-level commitment, support and grow buy-in from government partners.

Slowest progress against sustainability has been made at the school level, with sustainability remaining at a 'latent' level. Activities geared at addressing gender and child protection issues have seen the most progress with the majority of schools now having a Code of Conduct in place and being implemented. There was also considerable progress in implementing the training-of-trainers model in support of leaner centred-teaching, with both an initial training of teachers being implemented as well as refresher trainings being held in all implementation states delivered, crucially, by teachers identified to be 'master trainers' with support from Mercy Corps staff. However, the midline evaluation did not yet find evidence that this has generated a real shift amongst teachers towards learner-centred teaching approaches and away from teacher-centred teaching approaches.

Strong progress against sustainability has been made at the community level, with sustainability being rated as 'becoming established' at the midline round of evaluation. Qualitative research indicates that SBMCs have played a crucial role in sensitising and mobilising communities in support of girls' education and economic empowerment. This is reflected in significant buy-in from a range of community members including faith leaders, traditional leaders as well as parents themselves. These stakeholders have come up with context-specific mechanisms such as household visits, scholarship for ISGs, grants and donation or resources to OSGs in training or business, all in support of mitigating the barriers that marginalised girls are faced with in the community. In general, more communities are seen to be taking the lead in implementing programme-related activities and demonstrating full ownership of the initiatives.

Strong progress towards sustainability has been made at the system level, which is rated as a 'becoming established' level at midline. Real commitment to and ownership of ENGINE II activities is evidenced by the level of engagement demonstrated by a range of system level stakeholders. This includes the adoption of ENGINE methodology by the NYSC community development service in all 4 states, the adoption of the ENGINE II Child and Vulnerable Adult Protection (CVAP) protocol as the standard for reporting an referrals in all states with the exception of FCT (where it is awaiting approval by the Department of Education), and the creation of the State Advisory Group which has contributed to the access of the programme at the highest levels of state government.

Overall, ENGINE II has made significant progress towards achieving the sustainability of programme activities beyond the span of the ENGINE II programme implementation. Therefore, across all three levels where sustainability is being measured, ENGINE II achieved a score of 3 and is considered as **becoming established.**

7.1.5 Intermediate Outcomes

Attendance

This section draws on evidence presented in chapter 6.1. ENGINE II has a multi-pronged approach to improving the attendance of ISG at school and OSG at learning centres. These include building girls' motivation through mentors, peer support, and positive role models; addressing specific barriers to education including financial and community attitudes; improving school governance in the use of MIS; and reaching out to girls in danger of drop-out.

The results of the midline round of evaluation present a mixed picture of performance against Logframe attendance targets. At midline it was expected that at least 48% of girls would attend learning centres at least 75% of the expected time. This was met when considering the full sample of girls (ISG and OSG), though it should be noted that this was achieved for OSG but not for ISG. It was also expected that at least 60% of ISG would have good school attendance over the past month defined as attending 100% of the time. This Logframe target was missed marginally with just 57% of ISG meeting this standard. The evaluation also does not find evidence of any statistically significant impact of ENGINE II on attendance of ISG.

The midline evaluation results also highlight potential barriers faced by both ISG and OSG in attending schools or the learning centres. For ISG a relatively common reason for non-attendance was related to responsibilities to their households whether this was hawking, domestic chores or farming which caused girls to be late for morning school sessions. Requirements to participate in farming were also noted by OSG respondents in the qualitative research, where for some girls it appeared that household obligations to support during key periods such as harvesting took priority over their participation in the programme.

From a programming point of view, it is worth noting that some respondents in the qualitative research noted that the timing of learning centre sessions hindered their ability to attend. Learning centre sessions were described to be held after school hours, with some parents or care givers not giving permission for girls to attend late sessions. In addition, it appeared that the timing of learning sessions conflicted with intensive coaching sessions for OSG who were preparing for entrance examinations to advanced or tertiary education, thereby reducing their engagement with the programme.

Quality of teaching

This section draws from evidence presented in chapter 6.2. ENGINE II through a training-of-trainers model seeks to improve the pedagogical practices of teachers, and specifically seeks to increase the proportion of teachers who are practicing learner-centred, as opposed to teacher-centred teaching approaches. In order to assess the quality of teaching, and in particular whether teachers are practicing learner-centred approaches this evaluation applies the Principles of Adult Learning Scale (PALS) to assess teachers against 7 factors including: learner-centred activities; personalising instruction; relating to experience; assessing student needs; climate building; participation in the learning process; and flexibility for personal development.

The midline round of evaluation finds that despite a marginal increase in the proportion of ISG who perceived that the teaching quality of their teachers had increased, neither of the two teaching quality Logframe targets had been met. In the first instance this relates to the proportion of teachers who are practicing learner-centred approaches as measured by the PALS index, where the evaluation finds that no teachers in schools or LCFs at learning centres were using a learner-centred approach to teaching. Despite this the midline evaluation does find evidence of some improvement against some of the domains in the PALS index. For teachers of ISG and LCFs at learning centres there has been some improvement in the *learner-centred activities* domain which provides some evidence of teachers and LCFs gearing instruction around the needs of students. However, scores against this domain remain low. There is also evidence of a marginal increase in the performance of teachers of ISG in the *relating to experience* domain, which relates to teachers relating instruction to the lived experience of their students. However, the evaluation finds no evidence of improvements in any other domains on the PALS index.

Despite this the midline evaluation provides evidence that ISG perceive an improvement in the quality of teaching that they are provided with. In particular this relates to the proportion of girls reporting that their teachers will use a different language if they are struggling to understand, as well as teachers suggesting ways to study after school.

During the qualitative research teachers highlighted a number of challenges that impacted on their ability to teach as they would intend. This includes a lack of materials and infrastructure ranging from textbooks to chairs. Teachers also often reported challenges in teaching to the curriculum, as they were often forced to use lessons to teach students foundational skills.

Increased financial income and economic opportunities

This section draws from evidence presented in chapter 6.3. ENGINE II seeks to increase access to economic opportunities that can enable marginalised girls to create better futures, build assets, and become financially independent. ENGINE II has a range of activities specifically targeted at OSG including training sessions supported by a Financial and Business Education manual, linkages to savings groups and microfinance institutions and complementary life skills and job readiness training.

The midline evaluation finds mixed evidence on the performance of ENGINE II against this intermediate outcome. For those that have successfully maintained an active business at midline the qualitative research indicates that OSG point to the efficacy of training, in particular financial literacy, linkages to financial institutions and peer and mentoring support through the girls' fora as particularly supportive of this achievement.

At midline, 37% of girls who are active in business report that their income has increased as a result of business training. In part this is likely to the harsh reality of the environment in which small businesses operate in Nigeria. Available literature suggests that small businesses in Nigeria face a range of barriers. Some of these are being directly addressed by ENGINE II including a lack of financial support, low financial literacy, and poor management practices. However, others are outside of the control of the programme including inadequate and low-quality infrastructure, corruption and recent low economic growth.

Life skills and decision-making skills

This section draws on evidence presented in chapter 6.4. ENGINE II has designed a life skills curriculum that seeks to support girls to acquire knowledge and skills in a variety of domains, two of which are measured by this evaluation. Firstly, ENGINE II supports girls to be more confident and articulate in making decisions that affect their lives. Secondly, girls are supported to acquire knowledge related to menstrual hygiene and management (MHM).

The midline evaluation provides mixed evidence on the performance of ENGINE II on the capacity of girls to make decisions related to their lives. Respondents to the qualitative research suggest that the programme as supported girls to become more confident and to be less afraid of voicing their opinions. This appears to be expressed through a variety of channels including negotiations with their parents about educational choices as well as being more confident to speak out in communal settings such as community or religious gatherings.

However, the evaluation finds that midline Logframe targets have not been met, as measured by an index measuring the decision-making capabilities of girls. This measures the ability of girls to take decisions for their lives in 8 domains. We find a statistically significant increase in the proportion of girls who can independently take decision in their life in just one of these domains related to *how you spend your money*, between baseline and midline. However, do not find that there is an increase in the proportion of girls that can independently take, or jointly take with family, decision in any other domain. These include decisions related to girls' education, work decisions, decisions around the use of free time, or decisions related to age of marriage.

During the midline round of evaluation girls were also assessed on their MHM knowledge and attitudes. Whilst baseline data is not available to support an understanding of how these have progressed at midline, evidence generated by the midline evaluation shows that relatively few girls (12%) have good MHM knowledge, as measured by the percentage of girls who can name at least 3 key facts about menstruation. The extent to which girls display positive attitudes towards menstruation is moderate, with 39% of girls believing in one or no myths about menstruation. The evaluation finds that while the vast majority of girls believe that menstruation is a natural and normal process, many girls continue to believe that there are certain types of food that should be eaten during menstruation and that exercise during menstruation is bad.

School governance and management

This section draws on evidence reported in chapter 6.5. ENGINE II is seeking to enhance school management and school governance with the view to support the implementation of programme activities. It does this through targeted training of SBMC or CAC members on gender and child protection issues, facilitating enrolment and attendance as well as resource mobilisation. This is complemented by efforts to support the sensitisation of key members of surrounding communities.

This evaluation finds that ENGINE II has not met its midline Logframe targets against this intermediate outcome, finding that a lower proportion of SBMC's than expected have taken actions to make the school an enabling environment for girls' education.

Despite not meeting midline targets the evaluation does find evidence that a considerable proportion of SBMCs have taken actions to create an enabling environment in schools, with over two-thirds of SBMCs reporting this to be the case. In addition, many SBMCs have reported that they have taken specific actions to improve attendance as well as in taking direct action in support of girls who have dropped-out to return to school, including discussions with parents or guardians and the provision of financial support. Furthermore, a high proportion of SBMCs (63%) report that they have developed and are enforcing codes of conduct to address child protection and gender-based issues in school.

For the other two Logframe indicators, baseline data was not available. The evaluation finds that 54% of SBMCs and 32% of CBMCs have good knowledge of barriers faced by marginalised girls, measured as the percentage of SBMCs/CBMCs who were able to name at least two barriers to girls' education and report at least two activities that the committee has taken to address these barriers.

The vast majority of girls (97%) demonstrate positive attitudes and knowledge towards gender issues. On the other hand, only 41% of girls have good knowledge of their rights.

7.2 Recommendations

Recommendations for learning outcomes

Whilst the evaluation finds that there has been a statistically significant impact on literacy outcomes for OSG and numeracy outcomes for both ISG and OSG we find that midline Logframe targets have been met for only numeracy for ISG. Furthermore, we find that the level of learning remains low, particularly for ISG against numeracy where the majority of girls performing below grade expectations. If possible teacher training that focusses on learner-centred training could be complemented with training in support of bridging the gaps in learning identified by this evaluation identified in sections 3.1.3 and 3.1.4.

Recommendations for teaching quality

Overall this evaluation does not find evidence that the ENGINE II programme has had an impact on teachers using learner-centred teaching approaches in the classroom. The programme could benefit from reflection on where teachers have performed poorly on the PALS index (i.e. scored below the mean). These include:

- **Learner-centred activities**: whilst the evaluation finds that performance in this domain has improved, the low scores are reflective of teacher-centred mode of teaching with a preference for formal testing over informal techniques and a heavy reliance on standardised tests, as well as using a teaching style that assumes learners will have a homogenous learning style.
- **Personalising instruction:** poor scores against this domain are indicative that teachers take a lecturing approach rather than incorporating a variety of activities to meet the distinctive needs of every student.
- **Flexibility for personal development**: low scores against this domain are indicative that teachers view themselves as being the providers of knowledge rather than facilitators for students to access knowledge.

Recommendations for attendance

Results from the qualitative research suggest that the timing of certain learning centre activities are either held at times (after school) that discourage the attendance of some girls due to concerns over safety or are held at times that conflict with other activities such as intensive courses in support of entering higher education. The programme should consider whether the timing of these activities is suitable for the needs of supported girls.

Recommendations for child protection

Whilst the adoption of the ENGINE II supported CVAP in the majority of intervention states is a significant achievement the qualitative research highlighted that frontline education officers and SBMC members remain largely unaware. The successful of the CVAP will depend on focussed efforts to sensitise key local level stakeholders in the purpose and implementation of the CVAP.

Annex 2: Intervention roll-out dates

Please provide a timeline of roll-out of your interventions in the table below.

Table 16: Intervention roll-out dates

Intervention	Start	End
Teacher Capacity Building (LCFs and Master Trainers)	May 2018	Ongoing – end date June 2020
Learning sessions (OSG and ISG)	October 2018	Ongoing – end date June 2020
Distribution of teaching and learning materials	January 2019	February 2020
NYSC engagement	January 2019	Ongoing – end date June 2020
VTI Training	January 2019	Ongoing – end date June 2020
LCF Cluster Level Coaching	August 2019	Ongoing – end date June 2020
LCF- Master Trainer Coaching	August 2019	Ongoing – end date June 2020
Dispatching learning reinforcement SMS	October 2018	Ongoing – end date June 2020
Engagement with MFI for loan opportunity	October 2018	Ongoing – end date March 2020
Provision of scholarship for second chance education opportunity	February 2019	Ongoing – end date May 2020
Business assessment and provision of equipment grants	September 2019	Ongoing – end date March 2020
Formation and registration of cooperative group	August 2019	Ongoing – end date March 2020

Formal Bank Account opening and registration of eID card	September 2018	Ongoing – end date June 2020
Champion Days	August 2019	Ongoing – end date June 2020
Excellence Awards	March 2019	Ongoing – end date June 2020
Capacity Building for SBMC (development of school development plans)	March 2019	Ongoing – end date March 2020
Principals' Engagement	July 2019	Ongoing – end date March 2020
House to House Visits led by Learning Centre Facilitators	July 2019	Ongoing – end date March 2020
Use of audio visual materials at Learning Centres (videos)	January 2019	Ongoing – end date March 2020
Community Engagement	July 2018	Ongoing – end date June 2020
Community Advisory Communities and State Advisory Groups	September 2018	Ongoing – end date June 2020
Engagement with high-level policy implementers	September 2018	Ongoing – end date June 2020
Intensive coaching for transition exams (JSCE and SSCE)	January 2019	Ongoing – end date May 2020
Payment of registration fees for girls to write SSCE	October 2018	February 2020

Annex 3: Midline evaluation approach and methodology

The following section describes the approach to the evaluation and the mixed methods methodology.

3.1 Key evaluation questions and indicators

3.1.1 Key evaluation questions

This evaluation is grounded in a Theory Based Evaluation (TBE) approach. A TBE approach seeks to unpack the overall programme theory of change (TOC) and assess whether the inputs and outputs generated by the programme were relevant to the needs of programme target beneficiaries and delivered efficiently, and appropriate to the given context in Nigeria to effectively deliver outcomes and impact. The evaluation also seeks to assess the sustainability of programme activities using as the basis the GEC-T framework for sustainability.

A set of overarching evaluation questions have been structured against the OECD-DAC criteria of relevance, efficiency, effectiveness, impact, and sustainability. Against each of these a series of sub-questions were designed and agreed at baseline to address the evaluation needs of GEC-T and the ENGINE II programme, as well as to assess the progress made by ENGINE over time. These are presented in turn in what follows.

Impact: What is the impact of the ENGINE programme?

The aim of the ENGINE II programme is to achieve improved learning outcomes for the target beneficiaries i.e. marginalised girls aged 18 – 24 years. It is expected that the two groups i.e. ISGs and OSGs will be exposed to academic interventions that would help them transition successfully through key stages of education or transition into economic opportunities. Table 1 presents the evaluation sub-questions against impact.

Table 1: Impact

No.	Question
A.1	What impact did the ENGINE II programme have on the learning and transition of marginalised girls, including girls with disabilities?
A.2	How and why was this impact achieved across programme implementation locations?
A.3	What contextual factors impacted the implementation of the programme?

Relevance: How relevant is the ENGINE II programme?

The relevance of ENGINE II programme depends on the extent to which it has been based on a valid theory of change which is appropriate to the context of implementation, and the extent to which it meets the needs of stakeholders and in particular its final beneficiaries, i.e. marginalised girls aged 18-24 years. The assessment of the validity of a Theory of Change has two main elements. The first is an 'ex ante' assessment of the coherence of the Theory of Change and the intervention logic it contains, as well as the consistency of its key assumptions with the available evidence base. The second is an 'ex post' assessment of how far the assumptions and intervention logic have held in practice. In the table below, we present a set of questions that have been addressed while assessing relevance on the ENGINE II programme.

Table 2: Relevance

No.	Question
B.1	How relevant are the intervention (economic, education and financial) activities to the needs and priorities of stakeholders?
B.2	How significantly did the educational technology utilised on ENGINE II influence beneficiary attendance, use of learning and school grades?

Effectiveness: Has ENGINE II programme achieved its objectives?

The effectiveness of the ENGINE II programme will be assessed based on the achievement or non-achievement of the core objectives of ENGINE II which is centred around 3 main outcomes (i) improved learning outcomes (ii) transition through key stages of education or economic opportunities and (iii) sustainability of changes in line with learning and transition. These have been used as the basis for developing the questions to be addressed while evaluating programme effectiveness as set out in Table 3.

Table 3: Effectiveness

No.	Question
C.1	Was the ENGINE II programme successfully designed and implemented?
C.2	What worked (and did not work) to increase the learning and transition of marginalised girls that benefitted from the ENGINE II programme?
C.3	How did the educational technology used on ENGINE II influence participatory teaching, teaching competence and learning solutions in programme states?
C.4	What effect did ENGINE II have on the operations of school governance and management and how did this influence learning and attendance?
C.5	How did programme outputs contribute to the impact (if any) achieved by the programme?

Efficiency: How efficient has ENGINE II been in achieving its objectives?

Efficiency encompasses the cost-effectiveness of the interventions and the effectiveness of management and governance. Based on the evaluation questions, the programme is highly interested on if it demonstrated value for money in terms of cost efficiency and effectiveness. We have developed the following questions that will guide into a well-reasoned evaluative judgement on the performance and contextual evidence at the endpoint. Table 4 shows the questions to be addressed while evaluating efficiency.

Table 4: Efficiency

No.	Question
D.1	How did the ENGINE partnership perform (in terms of programme efficiency)? Did the programme benefits outweigh the cost of intervention activities?
D.2	Did the programme demonstrate efficiency in terms of cost utilization? Did it cost more or less than planned and why?
D.3	To what extent did the cost affect the results and sustainability of the programme?
D.4	To what extent did the programme costs meet the needs and priorities of the stakeholders?

Sustainability: Does the ENGINE II programme have sustainable approaches?

In addition to an assessment of the relevance, effectiveness, efficiency, and impact of the ENGINE II programme this evaluation assesses the sustainability of the ENGINE II interventions. This will assess the willingness and capacity of key stakeholders to continue the implementation of ENGINE II interventions beyond the period of external support and financing. Our assessment of sustainability considers the following factors:

- The attitude of influential stakeholders, particularly government, community leaders and influencers and the education sector, to the initiative and their willingness to adopt these best practices, promoting it and new innovations associated with it;
- The affordability of the initiative within the resource envelope available, particularly the state and local government education budget;
- The existence of sufficient institutional, organizational and individual system or capacity to continue effective implementation.

To assess this, we have the following sets of evaluation questions.

Table 5: Sustainability

No.	Question
E.1	How sustainable were the activities funded by ENGINE II and was the programme successful in leveraging additional interest and investment?
E.2	How has the institutional capacity of girls' clubs across programme states demonstrated competence to maintain the perceived benefits within the available resources?
E.3	What influence did ENGINE II have on communities and parents to facilitate support of girls' education and transition to the next stage of their education/business? How did this happen?
E.4	How has ENGINE II influenced the ecosystem in programme states to improve the life of marginalised girls?
E.5	What lessons can be learned for shared value partnerships?

The evaluation questions presented above will form the basis for the TBE approach and will support an assessment of ENGINE II's TOC, as well as an assessment of the assumptions that underpin each step in the causal chain. It is expected that this will provide a set of evidence on the degree to which ENGINE II has effected real change for beneficiaries, their communities, and their schools as well as to support an understanding of how and why these changes have, or have not, come about.

3.1.2 Outcomes and intermediate outcomes

Table 6 shows the project's outcomes, intermediate outcomes and their respective indicators, as well as describing the changes to the indicators that have been made since the baseline. The indicators presented in each table are in line with the Logframe.

Table 6: Outcomes for measurement

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
Outcome 1: Number of marginalised girls supported by GEC with improved learning outcomes						
Literacy indicator: Percentage of marginalised girls supported by GEC with improved literacy outcomes	School Safe space	Quant: EGRA/SEGRA Qual: FGD	EGRA/SEGRA is predetermined by the FM FGD tools describes the why/how of changes observed on the learning outcomes of target girls	Annually	OPM	The indicator was revised from a numeric to a proportional measure at midline. The SEGRA tools were modified to include simpler tasks at midline to address floor effects observed at baseline.
Numeracy indicator: Percentage of marginalised girls supported by GEC with improved numeracy outcomes	School Safe space	Quant: EGMA/SEGMA Qual: FGD	EGMA/SEGMA is predetermined by the FM FGD tools describes the why/how of changes observed on the learning outcomes of target girls	Annually	OPM	The indicator was revised from a numeric to a proportional measure at midline. The SEGMA tools were modified to include simpler tasks at midline to address floor effects observed at baseline.
Life skills indicator: Girls aggregate score on the life skills ladder index	School Safe space	Quant: Girl survey Qual: FGD	Life skills statements were predetermined by the FM FGD tools elicit contextual information about girls and how their knowledge, attitude and practice have changed since exposed to the programme.	Annually	OPM	New statements were added to the baseline template and some excluded. Also, the wordings were revised to be more specific at midline. Number of statements read out reduced from 19 at baseline to 15 at midline. The decision-making statements did not change at both points.
Outcome 2: Transition: Number of marginalised girls who have transitioned through key stages of education, training or employment						
Percentage of marginalised girls who have transitioned through key stages of education	School	Quant: Girl survey; Attendance and Transition tool Qual: FGD	Self-reported trimester results for ISG at baseline and midline to assess progress between grades. Additional reports on English language and Mathematics performance at the end of the academic year were collected at school level	Annually	OPM	The additional report gathered information on girls that successfully achieved a pass mark in Maths and English in the trimester results and passing onto the next grade completion of secondary level education and entry into university or polytechnic institutes. Measure of change now considered in 'percentage' rather than 'absolute score' terms.

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
Percentage of marginalised girls who have transitioned through key stages of economic opportunities	OSG in safe spaces	Quant: Girl survey Qual: FGD with ISG/OSG	Assessment questions were designed to access opportunities (financial and entrepreneurial) available to girls	Annually	OPM	Measure of change now considered in 'percentage' rather than 'absolute score' terms.
Outcome 3: Project can demonstrate that the changes it has brought about which increase learning and transition through education cycles are sustainable: Performance against comprehensive sustainability scorecard (scores 1-4).						
Sustainability Indicator - Community level						
Indicator 1: Faith and traditional leaders in ENGINE II communities advocate for girls' education, integrating key gender findings from the project	Community level	Quant: SBMC survey Qual: Gatekeepers KIIs, SBMC FGD guide	To assess initiatives taken by traditional and religious leaders to support girls' education and address gender issues.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision.
Indicator 2: Girls parents and primary gatekeepers in ENGINE II communities take initiatives within the household or community to support girls' rights to education.	Community level	Quant: Household survey; SBMC survey Qual: Gatekeepers KIIs	To assess initiatives taken within households and communities to support girls' rights and education.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision. Also, the indicator became more specific to assess initiatives taken within households and communities to support girls' education.
Indicator 3: Gatekeepers and community members in ENGINE II communities advocate for OSGs to go back to school, leveraging on existing AME structures or other formal education systems.	Community level	Quant: SBMC survey Qual: Gatekeepers KIIs, SBMC FGD	To assess initiatives taken within households and communities to support girls' rights and education.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision. Also, the indicator became more specific to its key audience.

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
Indicator 4: Community members and gatekeepers in ENGINE II communities understand child protection and gender issues and are taking initiatives to address these issues at the community level	Community level	Quant: SBMC survey Qual: Gatekeepers KIIs, SBMC FGD	To assess initiatives taken by beneficiary communities to support girls' who would like to re-enrol in formal schools.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision. Also, the indicator became more specific to its key activities.
Sustainability Indicator - School level						
Indicator 1: ENGINE II schools update/establish Code of Conduct incorporating gender and protection issues	School level	Quant: SBMC survey Qual: Gatekeepers KIIs, SBMC FGD	To assess schools that have developed/updated the code of conduct as a result of the programme's support	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision.
Indicator 2 - Project schools adapt ENGINE learner centred teaching methodology	School	Quant: Teacher survey, Classroom observation tool Qual: Teacher KIIs	To understand how ENGINE II trained teachers are able to deploy interactive pedagogy, formative assessment strategies, and numeracy and literacy pedagogy to improve learning outcomes among learners.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision. Two indicators at baseline were merged into one at midline as both were aimed at assessing improved teaching quality in beneficiary schools.
Indicator 3 - Non-project schools replicate ENGINE learner centred teaching methodology.	School	Quant: Teacher survey, Classroom observation tool Qual: Teacher KIIs	To understand how well the impact of improved teaching quality as a result of ENGINE II intervention has proliferated to non-beneficiary schools in the intervention states.	Annually	OPM	Specific quantitative target associated with the indicator was removed after revision.
Sustainability Indicator - System level						

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
Indicator 1: NYSC community development service adopts ENGINE methodology for NYSC corps members across 4 states in Nigeria.	State	Qual: KIIs with government officials and volunteer CDS members in the NYSC	To understand the collaboration between the NYSC and the ENGINE II programme as well as how effective is the use of role models as champions at the community level.	Annually	OPM	Indicator was revised to apply only in the 4 intervention states.
Indicator 2: ENGINE II Child and Vulnerable Adult Protection Referral Protocol approved and adapted by 3 State Governments as the standard for reporting and addressing issues of abuse in the state.	State	Qual: KIIs with government officials	Data sources for this indicator are key informants that are better engaged as rich and contextual focal points on actionable plans and collaborations with the programme.	Annually	OPM	Indicator was revised to be more specific to 3 out of 4 states that would adopt the CVAP protocol
Indicator 3: 1 Federal and 2 State Governments recognises ENGINE's contribution towards the education and economic empowerment of marginalised girls in Nigeria.	State	Qual: KIIs with government officials	Data sources for this indicator are key informants that are better engaged as rich and contextual focal points on actionable plans and collaborations with the programme.	Annually	OPM	New indicator to understand what public institutions in the states are doing to support and address barriers facing girls.
Indicator 4: 3 State Governments are aware on the key barriers to girls' education and economic empowerment and are taking supportive actions.	State	Qual: KIIs with government officials	Data sources for this indicator are key informants that are better engaged as rich and contextual focal points on actionable plans and collaborations with the programme.	Annually	OPM	New indicator to understand what public institutions in the states are doing to support and address barriers facing girls.
Intermediate outcome 1: Number of marginalised girls who record improved attendance at safe space learning centres and at classrooms						
Percentage of marginalised girls who achieve at least 75% attendance at the learning centres.	Learning centre	Quant: Girl survey Qual: FGD with ISG/OSG	Regular attendance is linked to improved learning outcomes	Annually	OPM	Unit of measure was changed from numeric to percentage.

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
						Good attendance was defined as achieving at least 75% attendance rate within the stipulated period.
Percentage of ENGINE II ISGs reporting good attendance at school.	School	Quant: Girl survey Qual: FGD with ISG	Regular attendance is linked to improved learning outcomes	Annually	OPM	Unit of measure was changed from numeric to percentage. Good attendance was defined as achieving at least 75% attendance rate within the stipulated period.
Intermediate outcome 2: Teaching Quality - Number of teachers who demonstrate the application of learners' centred teaching learning methodology						
Percentage of ENGINE II Learning Centre Facilitators (Teachers) using learners centred teaching methodology both at ENGINE II learning centres and at classrooms	School Learning centre	Quant: Girl survey, Teacher survey and classroom observation survey Qual: FGD with ISG/OSG, KII with Teachers	Improved teaching quality is linked to improved learning outcomes and attendance	Annually	OPM	Unit of measure was changed from numeric to percentage.
Percentage of in- school girls who report 'good' teaching quality at schools.	School Learning centre	Quant: Girl survey Qual: FGD with ISG	Improved teaching quality is linked to improved learning outcomes and attendance	Annually	OPM	None
Intermediate outcome 3: Economic Opportunities - Percentage of marginalised girls who evidence increase in their financial situation and report access to economic opportunities						
Percentage of OSGs reporting increase in income as a result of business training.	Community Learning centre	Quant: Girl survey Qual: FGD with OSG	Access to economic opportunities improves girls living standards, life skills and aids successful transition through life	Annually	OPM	Indicator was linked to programme activity a midline.
Percentage of OSGs who report access to a variety of livelihood opportunities and skills.	Community Learning centre	Quant: Girl survey Qual: FGD with OSG	Access to economic opportunities improves girls living standards, life skills and aids successful transition through life	Annually	OPM	Slight modification on wording – 'alternative' was changed to 'variety'.
Intermediate outcome 4: Life Skills - Percentage of girls who demonstrate increased knowledge on ENGINE II life skills curriculum						

Outcome	Level at which measurement will take place, e.g. household, school, study club etc.	Tool and mode of data collection (please specify both the quantitative and qualitative tool used)	Rationale, i.e. why is this the most appropriate approach for this outcome	Frequency of data collection, i.e. per evaluation point, annually, per term	Who collected the data?	Discuss any changes from BL (including whether this indicator is new)
Percentage of girls demonstrating decision making capabilities for life choices	School/Community Learning centre	Quant: Girl survey Qual: FGD with ISG/OSG, KII with Teachers	Improved life skills is linked to improved learning outcomes and successful transition thorough life	Annually	OPM	Unit of measure was changed from numeric to percentage.
Percentage of girls reporting good knowledge around menstrual health hygiene and management (MHM)	School/Community Learning centre	Quant: Girl survey Qual: FGD with ISG/OSG, KII with Teachers	Improved life skills is linked to improved learning outcomes and successful transition thorough life	Annually	OPM	Unit of measure was changed from numeric to percentage.
Percentage of girls demonstrating improved attitude towards menstrual health hygiene and management	School/Community Learning centre	Quant: Girl survey Qual: FGD with ISG/OSG, KII with Teachers	Improved life skills is linked to improved learning outcomes and successful transition thorough life	Annually	OPM	Unit of measure was changed from numeric to percentage.
Intermediate outcome 5: School Governance - SBMCs and PTAs take actions to make school an enabling and supportive environment for both girls and boys						
Percentage of School Based Management Committees-SBMCs/PTAs that have taken actions to make school an enabling environment.	School/Community level	Quant: SBMC survey Qual: SBMC FGD	To assess initiatives taken by beneficiary communities to make school or learning centres conducive for learning	Annually	OPM	Indicator measures activities that have been implemented as against future plans
Percentage of SBMCs/gatekeepers demonstrating knowledge of key barriers faced by marginalised girls and boys.	School/Community level	Quant: SBMC survey Qual: Gatekeepers KIIs, SBMC FGD	To assess the level of awareness of governance bodies in school and communities about the barriers that marginalised girls and boys face.	Annually	OPM	Specific number associated with the indicator was revised to percentage.
Percentage of girls and young women demonstrating good knowledge of Child and Vulnerable Adult Protection and Gender issues	School/Community level	Quant: SBMC survey, Household survey, Girls survey Qual: Gatekeepers KIIs, SBMC FGD	To assess the level of awareness of key stakeholders in school and communities about child protection and gender issues.	Annually	OPM	None

3.2 Evaluation methodology

The Impact Evaluation adopts a Theory Based Evaluation mixed-method approach, employing a quantitative panel survey complemented by qualitative research to evaluate the programme across the four states of intervention. The quantitative impact evaluation employs a longitudinal, quasi-experimental approach to support the attribution of changes in intermediate and final outcomes to ENGINE II. The quantitative panel survey is made up of three rounds of survey over twenty months including a baseline (2018), midline (2019) and endline (2020).

The quantitative study focusses on the core target beneficiaries of the programme, i.e. marginalised girls. With the resources available to the evaluation it was not possible to include a sample of boys that would have enabled a direct quantitative comparison of the barriers to education that affect girls and boys. However, components of the qualitative research were targeted at boys in order to provide an understanding of the differential barriers to education experienced by girls and boys.

3.2.1 Learning and transition cohort for the evaluation

The evaluation is tracking a joint sample for both learning and transition.

At midline, we aimed to track all girls who were interviewed at baseline. At midline, the learning cohort consists of all girls who could be successfully tracked to a school or a learning centre / safe space that is part of the evaluation sample.

The transition cohort consists of all girls that are part of the learning cohort. In addition, the transition cohort also includes girls who could not be tracked physically, but whose caregivers could be tracked through a telephone interview. For these girls, we collected information on their transition status but did not conduct any interviews or learning assessments with the girls directly.

Therefore, while the evaluation is based on a joint sample approach, the sample for the learning cohort at midline is smaller than that for the transition cohort.

3.3 Midline data collection process

3.3.1 Pre-data collection - Adaptation of the sampling framework

Quantitative approach

Summary of the baseline sampling approach

At baseline, 46 intervention schools (13 in FCT, 15 in Kano, 18 in Kaduna) were randomly selected from the list of all schools where ENGINE II works. Each intervention school was matched with a control school using information from the Education Management Information System (EMIS) and characteristics of the school collected during a school validation survey. The schools served as the cluster for in-school (ISG) and out-of-school (OSG) populations.

For the OSG sample, an extra state was incorporated, Lagos state. The list of intervention communities was obtained from the mapping exercise conducted by the programme team. 12 communities across 5 LGAs were randomly selected from this list to be visited during the survey. Control communities in each LGA were selected based on their distance from the intervention communities. The selection criterion was dependent on the control communities being furthest away from the intervention communities. The baseline sample therefore consisted of a total of 92 schools (46 intervention, 46 control) and a further 24 communities (12 intervention, 12 control).

Upon arrival at each school and community, 10 in-school girls and 8 out-of-school girls respectively were randomly sampled in each of intervention and control localities, then enrolled into the study for ISG and OSG cohorts respectively. To obtain a sufficient sample size for cohort tracking, the evaluation sample size was calculated to account for a 30% attrition rate in each year of the evaluation.

Estimation of attrition at midline and sample top-up

Prior to the midline data collection, it became clear that several intervention schools (clusters) were no longer part of the ENGINE II project. At the time of the baseline, ENGINE II had not yet completed its re-enrolment of beneficiaries from the first phase, therefore by necessity the baseline sample was constructed based on the list of ENGINE I intervention schools. When the project completed its re-enrolment, it became evident that a relatively high proportion of evaluation schools would no longer be supported by the project during the second phase because the direct beneficiaries had dropped from the project. This has contributed to a higher than expected rate of attrition.

Table 7 below shows the number of baseline intervention schools (clusters) that continued to be part of the project at midline, with a total of 13 intervention schools being lost from the sample and 9 control schools being lost from the sample. This was most problematic in FCT and Kaduna states.

To mitigate the substantial attrition at the school level, it was necessary to top-up the sample with additional schools and girls. Whilst the preferred approach to addressing the attrition of girls would have been to sample additional girls from schools included in the baseline sample, this was not possible due to the substantial attrition of schools. As a result, 7 additional intervention schools and 3 additional control schools were sampled, in an effort to meet midline and endline sample size requirements.

Table 7: Attrition at cluster level

State	Baseline	Excluded after baseline	Midline cohort	Enlisted at Midline	Midline Total	Attrition
Intervention clusters						
FCT	13	8	5	4	9	61.5%
Kaduna	18	5	13	3	16	27.8%
Kano	15	0	15	0	15	0.0%
Lagos ***(OSG only)***	12	0	12	0	12	0.0%
Total sample size	58	13	45	7	52	22.4%
Control clusters						
FCT	13	5	8	1	9	38.5%
Kaduna	18	3	15	2	17	16.7%
Kano	15	1	14	0	14	6.7%
Lagos ***(OSG only)***	12	0	12	0	12	0.0%
Total sample size	58	9	49	3	52	15.5%

In addition, it became evident that ISG who had been sampled from SS2 (equivalent to Grade 11) at baseline would no longer be in school by the time of the endline evaluation. This represents 50% of the baseline ISG sample and would therefore reduce the size of the learning cohort substantially at endline. To mitigate against this, the decision was taken to top up from the sample of ISG who are in SS1 and SS2 at midline.

Table 8 shows the sample size calculations for the learning cohort that were carried out before the midline evaluation. The sample size at midline is topped up through adding four additional intervention clusters in FCT (as described above) and through increasing the number of ISG and OSG that are interviewed in each cluster. We assume that some girls are likely to be lost from the learning cohort between midline and endline because they drop out of school or transfer to a school that is not part of the evaluation sample. We therefore assume a 30% attrition rate between midline and endline. Taking into account this attrition rate, our sample at endline will deliver a minimum detectable effect (MDE, two-tailed) in standard deviations of 0.247 for the ISG and 0.224 for the OSG, which is below the 0.25 standard deviation target that the FM sets for the learning outcomes.

Table 8. Evaluation sample size calculation for the learning cohort, updated at midline

ENGINE II Evaluation Sample Size				
	Baseline		Proposed Midline	
Total sample size (in brackets: projected sample size at endline assuming 30% attrition in each round)	1,848 (904)		1,942 (1,306)	
Study groups	ISG	OSG	ISG	OSG

ENGINE II Evaluation Sample Size				
Sample size per group (in brackets: projected sample size at endline assuming 30% annual attrition in each round)	920 (451)	928 (453)	962 (666)	980 (686)
Number of clusters	91	116	74	98
FCT	26	26	18	18
Kaduna	36	36	28	28
Kano	29 (1 school w/20 girls)	30	28	28
Lagos		24		24
Number of obs/cluster	10	8	13	10
Power	0.8			
Alpha	0.05			
p (proportion in each intervention group)	0.5			
ICC for continuous outcomes (tests) relative to 1	0.2 (0.1-0.3)	0.1 (0.05-0.15)	0.2 (0.1-0.3)	0.2 (0.1-0.3)[1]
MDE (sd) 2 tailed test	0.249 (0.220-0.275)	0.22 (0.204-0.235)	0.247 (0.205-0.247)	0.224 (0.191-0.253)
MDE (sd) 1 tailed test	0.221 (0.195-0.244)	0.195 (0.181-0.209)	0.219 (0.182-0.251)	0.199 (0.170-0.225)

Girls who are lost from the learning cohort, for example because they have dropped out of school, transferred to another school or completed their education, will continue to be tracked for the transition cohort. The sample size of the transition cohort will therefore be larger than that of the learning cohort at midline and endline.

Qualitative approach

For the qualitative research a sub-set of LGAs targeted by the quantitative survey were purposively selected to ensure the best possible participation of girls and SBMC members in the research. As such two LGAs within each state in Kano, Kaduna, and FCT were selected based on having the highest number of schools within the LGA.

The target participants of Focus Group Discussions (FGDs) were ISGs, OSGs, and SBMC/PTA members. Each FGD was limited to 12 individuals to allow for both a range of possible perspectives and experiences, as well as to allow for meaningful engagement of each participant.

Data collection instruments at midline

The sections below describe the quantitative and qualitative instruments used at midline. All instruments were developed in collaboration with the programme manager and according to the specifications set out by the Fund Manager.

Quantitative data collection instruments at midline

Table 9 presents the list of quantitative instruments implemented during the midline research. At midline a specific attendance and transition questionnaire was added.

[1] Adjusting by the ICC calculated at Baseline for OSG.

Table 9. Quantitative instruments

Tools	Description	Respondent
School survey	To gather information on school infrastructure, population, teacher to pupil ratio, governance and management. Data generated would be triangulated SBMC data.	Head or deputy head teacher or their representative
Attendance and Transition questionnaire	Newly introduced at midline to document evidence-based information on the enrolment status of cohort girls, their attendance in schools/learning centres, and the transition outcome of girls at the school or household (if they no longer attend the sampled school). The transition component of this tool was administered telephonically to caregivers of cohort girls who could not be tracked at school to establish the girl's transition status.	Head teacher / Learning centre facilitator and caregivers of girls no longer enrolled at the sampled school.
Classroom observation and teacher survey	Designed to capture information about key foci of the programme: GESI-responsive and interactive pedagogy, use of formative assessment strategies, and use of numeracy and literacy pedagogy. The teacher questionnaire was adapted from the Principle of Adult Learning Scale instrument with a few contextual questions that were added to assess the teachers' understandings of the learner-centred teaching methodology as covered by ENGINE II. The classroom observation tool was modified at midline to provide some additional context into teacher practice and pedagogical skill while teaching.	One ENGINE II trained teacher that teaches either English or maths in any of SSS1 – SSS3 grades **OR** an LCF if it is a safe space.
Learning assessments	Designed by education experts following the guidelines provided by the GEC, we have the Early Grade Reading Assessment (EGRA)/Early Grade Maths Assessment (EGMA) for out-of-school girls and the Secondary Grade Reading Assessment (SEGRA)/Secondary Grade Maths Assessment (SeGMA) tools for the in-school girls. They were designed and adapted to the national curriculum to assess their proficiency in literacy and numeracy skills appropriate to each cohort. The ISG tools were slightly modified at midline though, to reduce floor effects that was observed among this group at baseline.	Cohort girls (ISG/OSG)
Girl survey	To provide information on the learning and transition outcomes of girls as well as improved behavioural change on their life skills and menstrual health management. Information will also be gathered on child protection issues that concerns them.	Cohort girls
SBMC survey	To elicit information on school governance and management activities by the SBMC or the Community Action Committee at the community level, in order to make school an enabling environment especially for girls	Members of the SBMC/PTA at the school and the CBMC/CAC at community level.
Household survey	Designed to understand household characteristics, their perception and support towards girl-education, how well they support girls in decision making. Data is collected to be triangulated with the findings generated from the girl survey.	Parents and caregivers of girls

Qualitative data collection instruments at midline

Table 10 provides the set of qualitative research tools that were implemented during the midline round of research. These include FGDs with ISGs, OSGs, and the SBMC and Key Informant Interviews (KIIs) with teachers, gatekeepers, and government officials.

Table 10: Qualitative tools

Tools	Description	Respondent
FGD with the SBMC or CBMC members	To understand how they perform their school/community governance functions to make school/work place an enabling environment especially for marginalised girls. Also, to know how ENGINE II has helped them to carry out these functions better.	SBMC/CBMC committee members
FGD with cohort girls	**ISG:** To understand in depth how learning and transition outcomes of girls as well as improved behavioural change on their life skills and menstrual health management has changed over time as a result of the intervention. Information will also be gathered on child protection issues that affects them.	Cohort girls in school and are enrolled on the programme
	OSG: In addition to the above (ISG), to know how their businesses or training has improved based on their participation in ENGINE II led initiatives; the challenges they face and other forms of support they have received since baseline.	Cohort girls that are out of school and enrolled on the programme
KIIs with school teacher/LCF	Designed to elicit information on the understanding of teachers on the learner-centred approach to teaching and how they support their learners to achieve improved learning outcomes	ENGINE II trained teachers/LCF
KIIs with gatekeepers at the community	Designed to gather information on the changes they observe in girls since the intervention began; the support they give to ensure girls can thrive successfully in their society. Triangulate with findings from quantitative data from household and SBMC/CBMC surveys.	Traditional / Religious / Key group leaders; caregivers / household heads
KIIs with Girls' Employer	Designed to corroborate the information gathered on opportunities available to girls' and their transition pathways through key stages of economic opportunities	Employers of girls on vocational education
KIIs with System level respondents	Designed to understand how they work with the programme to improve educational / economic outcomes for marginalised girls at the state/LGA levels; how far they have gone in the adoption process of the CVAP protocol and the replication of the ENGINE II model across non-intervention areas in the state.	Desk officers at the State Ministry of Education and other relevant agencies; NYSC officials working with the programme

Recruitment and training of researchers

Quantitative recruitment and training

All recruited research consultants for the quantitative fieldwork were selected based on their extensive experience with conducting education surveys in Lagos and Northern Nigeria. Additionally, all research consultants had previous experience working with Computer Assisted Personal Interviewing (CAPI). All research consultants were required to be fluent in English and Yoruba/Hausa depending on their states of assignment. Due to the survey target population, all the recruited research consultants and team supervisors were female, while state coordinators were male. A 15% buffer was added to the list of recruited research consultants to ensure that only the best-trained research consultants advanced to fieldwork.

For the quantitative fieldwork, research consultants were trained for 6 days. To maximise training efficiency and minimise distractions to data collectors, the training was fully residential. This ensured that the research consultants had more time to familiarise themselves with survey instruments on the CAPI and be better equipped with skills for accurate data collection. The training sessions provided the research consultants with information about the programme, the instruments to be administered, and provided them with the opportunity to discuss potential difficult scenarios they might encounter on the field, and possible solutions to these scenarios.

The training combined a variety of methods including PowerPoint presentations, group sessions, mock interviews, role-play and in-class scenarios to ensure that the training was intensive and interactive. Additionally, the participants were quizzed at the beginning of each day to assess their level of understanding of the information they received the previous day, and to inform facilitators on areas where participants had knowledge gaps. Furthermore, participants were given daily evaluation forms in order to get their opinions on the day's training, with the aim of learning how facilitators could improve their training experience.

Over the course of the training, a pilot exercise was conducted, which gave the enumerators the opportunity to witness real life scenarios, and practice accurate coding of responses. Facilitators assessed their ability to interact with the respondents, code responses appropriately, use the showcards and the CAPI confidently. The pilot survey was conducted in public schools in Dutsen Alhaji and Dei-Dei under AMAC LGA in the FCT. The enumerators had a chance to practice the school entry protocol and focused on their ability to conduct in-school assessments including the learning assessments, the school survey, girl questionnaire, teacher interview, and classroom observation.

Qualitative recruitment and training

Research consultants recruited for the qualitative fieldwork had previous experience working on the ENGINE quantitative fieldwork, making them more familiar with the details of the programme. In addition, the selected research consultants had previous experience with conducting qualitative research in at least one previous project. All moderators were female, with fluency in English, and the native language of their states of assignment.

The qualitative training lasted for 4 days with a field pilot exercise on the 3rd day. Facilitators provided enumerators with ample opportunities to practice the introduced survey instruments using role-plays and group exercises. Training participants were coached on proper interview techniques including how to ensure equitable engagement across FDG participants, and the need to solely ask non-leading and open-ended questions. The training sessions provided the participants with the opportunity to discuss potential challenges with the interview guides either in terms of wording difficulties or possible misunderstanding of questions by respondents.

For survey instruments with specific sample criteria and several participants, facilitators emphasised the need for interviewers to ensure sampled respondents meet the required criteria before the interview. PowerPoint presentations and group sessions were also used to ensure that the training sessions were dynamic. Over the course of the training, one pilot survey was conducted at JSS Karu and JSS Narai which gave the enumerators the opportunity to witness real life scenarios, and practice relevant skills as moderators and note takers. Enumerators asked questions while still out on the field and clarifications were made by survey team members.

3.3.2 Process of data collection

Quantitative data collection

Field work for the quantitative survey was conducted across the four survey states in the period 17th June 2019 to 28th June 2019. The ENGINE II field implementation was managed by the OPM-N team. Survey teams were organised as follows:

- 1 state coordinator per state – Responsible for team assignment to survey schools and all logistics required are provided and adequate
- 3 teams of 4 individuals, including a team supervisor in FCT; 5 teams of 4 individuals, including a team supervisor in Kaduna; 4 teams of 4 individuals, including a team supervisor in Kano and 5 teams of 2 individuals in Lagos responsible for day-to-day- data collection in sampled schools and communities. The team supervisors assigned individual tasks to each team member at their place of assignment, ensures it is completed according to the protocols and reports daily to the survey management team..

Qualitative data collection

The qualitative survey was initiated after the quantitative surveys had begun in each of the states. For the qualitative survey, field work in all states commenced with data collection on 1st July 2019 and ended on the 10th July 2019. Following fieldwork, the team developed comprehensive transcripts for each of the interviews, uploading on an on-going basis the audio records and report to the survey management team in Abuja for analysis.

Research ethics, safeguarding and child protection

Mercy Corps facilitated a training on child safeguarding policy to ensure all field team members that would encounter a research subject below the age of 18 years were properly trained on ethical standards i.e. the rule of do no harm. At the end of the training, participants signed to have understood and be able to apply acquired knowledge when dealing with their respondents.

Furthermore, OPM has a safeguarding policy that was shared alongside a detailed research ethics guideline with the team while the survey lasted. These documents outline the procedures and considerations that protect the physical and emotional well-being of child participants (as well as all other participants) at all points.

Consent was obtained from all respondents over 18 years old, and assent was obtained for all respondents less than 18 years old. Moreover, during the interview process, respondents were reminded of the confidentiality of the process, and that they were free to stop interviews at any time or skip any questions they did not want to answer. They also had the right to ask questions at any point before, during or after the interviews were completed. Respondents signed a photo indemnity form that granted permission to take their photographs for easier identification at subsequent timelines. All interviews were conducted in plain sight and considered local language and cultural practices during administration.

In the event that a child abuse or protection issue was encountered, researchers were required to document and refer the case to the relevant state partner that working with ENGINE II. No case of child abuse or protection issue was observed during either the quantitative survey or qualitative research conducted as part of the midline evaluation.

Enumerator safety

To ensure enumerator safety, logistical arrangements were conducted in close coordination with local community members and guides as well technical oversight from Spearfish, OPM's security provider. We ensured that teams were not sent to places where adequate security support could not be provided or was reported as not safe to work for the field team. In addition, when teams have to work in areas with limited power supply, they were provided with rechargeable power banks to sustain the electronic tablets.

Quality assurance

A combination of techniques and resources was deployed across all phases of the exercise to assure data quality during the baseline evaluation. State coordinators, and members of the central survey management team observed live interviews. Any errors detected during observations were noted and discussed with the teams during a daily de-brief.

Additionally, each supervisor was given a school assignment sheet to be filled each day after field work. Details to be filled into the form included the names of all respondents and which interviews had been completed. There was a household-tracking sheet, where teams were to fill in the household information of each girl interviewed to allow for easy tracking. This allowed supervisors to track the work completed by their team members daily and follow up on any pending questionnaires. At the end of each workday, supervisors sent their daily achievements to the WhatsApp group created for the survey. These reports were checked for consistency, completeness and correctness by the field management team. This report was cross-checked with the data management team, and any missing or inaccurate data are identified and communicated to the data collection team. Feedback was provided to enable teams to correct any mistakes and improve data collection. Additionally, teams were re-trained on data collection protocols as necessary.

An excel tracking sheet was also created by the survey management team to track the uploaded data. This information was cross-checked with the data provided on the WhatsApp group. This dashboard was also used to check any inconsistent or missing data. In the event of missing data, the field team was informed, and re-visits were conducted to ensure data completeness. Any other inconsistencies or errors were communicated to the state coordinators, and data collectors were re-trained when needed.

Re-contact and sampling protocols at midline

Quantitative re-contact and sampling protocols

Re-contact of cohort girls

Upon arrival at a school, the team supervisor with the support of the school principal or the ENGINE trained teacher assigned to the school confirmed the enrolment status of cohort girls from baseline. Based on the confirmed status and number of the girls who were still enrolled in the school, the team were then required to top-up the sample from girls in grades SS1 and SS2.

The minimum criteria for enrolment into the study, was that girls had to be at least 17 years old. The ISGs were administered the Girl Questionnaire and the SEGRA/SEGMA learning assessments. A household survey was also completed for the primary caregivers of baseline girls that were tracked at midline but not for those that were newly added at this evaluation point. A similar approach was used to validate the enrolment status of OSG in the intervention clusters. Here, the midline sample was increased to 10 per cluster compared 8 per cluster at baseline.

In situations where the school or the learning centre facilitator confirms that the girl is no longer enrolled in their cluster, the field team contacted by phone the primary caregiver whose contact information was provided at baseline to confirm the current status of the girl. For girls who were not enrolled in school and had to be tracked via phone calls, only the attendance and transition tool was administered and not the household survey. Up to three calls were made to the contact number(s) available in the name of the primary caregiver before classifying the girl as a non-response. Each girl that could not be tracked was then replaced in the midline evaluation.

Sampling of top-up girls and replacement of cohort girls

In each cluster, the following approach was taken to replace cohort girls that could not be tracked and to top up the sample:

i. Replace girls that cannot be tracked (phone and on-site) by recruiting new girls as part of the learning cohort that share similar characteristics (age, grade, other marginalization criteria) to girls lost from the sample due to non-response. In practice, the team supervisor made a list of prospective participants in each cluster on the spot, and used a checklist to assess if they met at least one of the marginalisation criteria as defined by the programme. Replacement girls were then selected randomly from all potential replacements that met marginalisation criteria.

ii. Whenever possible, girls were replaced mainly from SS1 and SS2 (grades 10 and 11). This is because girls who are currently in JSS3 might not transfer to a senior secondary school that is within the evaluation sample, and there is therefore a higher chance that we might not be able to track the girl at endline. In addition, the programme may also not be working with JSS3 by endline. In exceptional cases where there were not sufficient girls in SSS1

and SSS2, girls were selected from JSS3. This happened on relatively rare occasions (~15% of the midline cross-sectional sample) and means that they will no longer be in school by the endline survey.

iii. In each cluster, additional girls were sampled to top up the sample. We aimed to interview a minimum of 13 ISG and 10 OSG in each cluster. The additional girls were also sampled from SS1 and SS2 in schools and aged 17 years and above for ISG or OSG for the same reasons as described above. Intervention schools or communities without sufficient direct beneficiaries to sample from, the LCF or the girl ambassadors were met to identify those that are part of the girls' fora i.e. indirect beneficiaries. The process of selection as described in point (i) above is followed to make up the required sample size.

Household questionnaire

The household questionnaire was administered to a knowledgeable member of the baseline cohort girl's household that could speak to her wellbeing at home. Upon conclusion of administering the girl questionnaire and learning assessments to the sampled girl, the field team followed the cohort girl home to administer the household questionnaire. In cases where no adult was available to speak about the girl's wellbeing, a revisit was rescheduled at a time that was convenient for the respondent while the team is in the survey area. Households of the newly sampled girls were not surveyed at midline.

School survey

The primary respondent of the school survey was the school principal. Whenever the school principal was unavailable, the survey was administered to the vice principal or a representative identified by the school principal.

SBMC / CBMC interview

The SBMC/PTA was mobilised with the support of the school principal, who contacted the chairman/vice-chair of the SBMC and subsequently other required members of the committee like the secretary or treasurer. At the community level, the CBMC members were contacted with the help of the LSCs.

Teacher interview

Since baseline, the programme has carefully selected teachers that were trained to support the girls in schools or at the adult mass education centres if out of school. In each school, one randomly selected teacher was interviewed.

In intervention schools, the selection of teachers (who also doubled as learning facilitators) was based on a list of teachers trained by the ENGINE II programme team. In control schools, Math and English senior secondary grade teachers were selected to ensure comparability with teachers in intervention schools.

The teacher survey and classroom observation was completed with the Learning Centre Facilitators responsible for out-of-school support in the intervention clusters. In addition, the teachers/LCFs also responded to the attendance and transition survey instrument for the respective learning centres that they manage.

Qualitative re-contact and sampling protocols

Focus group discussions

FGD participants were purposively selected from a pool of respondents that were not interviewed during the quantitative survey. New discussants were selected at midline, that is, cohort girls and SBMC members. Those from baseline were not tracked so as to elicit new and unbiased information. Data collectors were provided with the contact details of the learning centre facilitators in schools and in the communities, they in turn assisted with the gathering of girls and SBMC members who were recruited to join in the survey.

For the ISG and OSG FGDs, girls from several schools and communities were selected from LGAs that are at distal ends taking consideration of their rural/urban stratification. For the SBMC FGDs, members from several schools were selected to form one FGD session. At least 2 FGDs were held with the key groups in each state and all interviews recorded and fully transcribed and translated.

Table 11: Summary of FGD achievements across the 4 implementation states

FGD Achievements					
Total Sample Size: 18					
	FCT	**Kano**	**Kaduna**	**Lagos**	**Total**
ISG	2	2	2	-	6
OSG	2	2	2	4	10
SBMC/CBMC	2	2	2	2	8

Key informant interviews

KII respondents at midline were newly selected so they are different from those that were interviewed at baseline. These were individuals who are stakeholders and are directly or indirectly involved with the ENGINE programme in the different states. This includes;

- Gatekeepers: Traditional community or religious leaders of ENGINE communities
- Teachers: In-School – Trained by ENGINE II, takes Maths or English subject
- Girls' Employers: Direct Supervisor for an OSG in training/business
- System level: Government worker in Education, or NYSC official

Table 12: Summary of the number of KII/IDI across the 4 implementation states

KII/IDI numbers					
Total Sample Size: 44					
	FCT	**Kano**	**Kaduna**	**Lagos**	**Total**
School teacher/LSC	2	2	2	2	8
Gatekeepers	2	2	2	2	8
Girl's Employer	1	1	1	1	4
System Level Stakeholders	2	2	2	2	8

3.3.3 Post data collection

Data cleaning and analysis

Quantitative data

At the end of each workday, the field team synced their data and uploaded it to the server. The data management team reviewed the data in real time. An error log was designed using STATA to check for inconsistencies, completeness and accuracy. Upon receipt of the data collected each day, an error-log was generated and sent to the state coordinators for review. Additionally, an Excel dashboard was maintained to track incomplete data across the survey states. Any cases of incomplete data were reported to the state coordinators. Providing real time support ensured that any errors were addressed efficiently.

All quantitative data was analysed using STATA, and a full record of all analysis has been kept using STATA syntax. All tables and graphs written in this report are reproducible and can be provided upon request.

Qualitative data

A report template was developed for researcher to document their own reflections, conveyed in their own words, of the interview which formed the first stage of the analysis. From these reports, themes which were identified in the first stage were then collected and summarised. Such debrief notes demonstrate clearly how interpretations of the data have been achieved and to illustrate findings with quotations form to strengthen the research and to ensure that data interpretation remains directly linked to the words of the participants. Similarities and differences between separate groups of data emerged at this stage, indicating areas of consensus in response to the research questions and areas of potential conflict. Transcripts were then coded on Nvivo following a set of codes developed using the discussion guide. Additional codes capturing new areas were generated as the iteration process continued. Consolidating the final codes, followed by identification of initial themes, patterns and relationships.

3.4 Challenges in midline data collection and limitations to the evaluation design

3.4.1 Methodological Challenges

Sample attrition

High rates of attrition were observed between baseline and midline for several reasons:

- Because of changes in the programme targeting, several intervention schools / clusters no longer contained direct beneficiaries at midline. This also affected the matched control schools / clusters.
- ISG who were expected to be in SS3 at the time of the midline survey had either already graduated out of secondary school or were writing their secondary school certificate examinations at the time of the survey and were unable to participate in the study.
- A large proportion of girls who were in JSS3 at baseline transitioned to senior secondary schools that were not part of the evaluation sample.
- Some girls relocated out of the study area or were unavailable for the survey for other reasons, for example because they got married.

A replacement protocol was developed ahead of the midline to mitigate against potential high attrition rates. To mitigate against high attrition from JSS3 at endline, the replacement protocol gave preference to topping up the sample with girls who are currently in SS1 and SS2. Also, to mitigate sample attrition in SS3 at endline, the evaluation team will ensure the survey is implemented way before the certificate examinations are done so that girls in SS3 by endline can still be a part of the impact assessment.

This means that the sample has been bolstered sufficiently for the endline evaluation. Nevertheless, at midline the size of the panel (girls who were interviewed at both baseline and midline) was substantially smaller than expected. This resulted in challenges to the evaluation approach, which are discussed next.

Change from quasi-experimental design to cross-sectional methodology

To offset the higher than expected attrition rate of schools from the evaluation sample, additional schools were sampled for the midline round of quantitative survey. These schools were matched to remaining evaluation schools using propensity score matching (PSM) based on a range of school characteristics to provide the best possible chance of balance between intervention and comparison schools.

However, the implication of the higher than expected attrition rate of schools was the necessity to change the impact estimation approach for the ISG sample. Whilst the intended design to estimate impact was based on a difference-in-differences (DID) approach, the remaining sample of girls that were interviewed at both baseline and midline (i.e. ‘panel girls’) was too small to allow for this approach. As such, and in consultation with the Fund Manager, panel girls were pooled with top-up girls and impact was estimated using on the cross-sectional midline sample. For the OSG sample, the sample remained large enough to continue using the panel DID approach.

Because a large number of new girls were surveyed at midline to boost the overall sample size, we expect that at endline it will be possible to use a panel DID approach for both ISG and OSG for the midline to endline comparison.

Spillover effect

There is the potential that ENGINE II activities in intervention schools might have some impact on non-treated schools. For example, if a teacher moves from an intervention school to a non-intervention school, this could compromise the programme impact as the girls in the comparison group might become exposed to some of the programme benefits. To mitigate this, during sampling, we ensured matched schools were positioned at a **'zone of exclusion'** around one another thus minimising the possibility of the evaluation sample being exposed to spill over effects. However, the government maintains the right to transfer teachers across the state, increasing the possibility that some teachers may be transferred to non-ENGINE schools at subsequent evaluation points.

Interviewer bias

There is a possibility that interviewers introduced bias while administering some instruments, especially in the variations of reading questions to respondents. To circumvent this, extensive training, role play exercises, daily debrief sessions were done. In addition, questionnaires were translated where appropriate and direct observation by the survey management team was carried out to ensure enumerators were strictly adhering to the research protocol.

Data management

Evaluation process like this are data-driven hence could be laborious and prone to human error. To avoid this, the programmed instruments were extensively desk-tested and piloted in-field. Furthermore, incomplete data or loss of data can occur as a result of poor programming and inefficient data collection/entry. To avoid this, high quality data checks were implemented by making sure there was a daily and continuous data review, error logs and feedback, syntax files checks, etc.

At the end of field work, additional measures were also taken to ensure data completeness, accuracy and consistency. Data labels were ensured to be rightly named i.e. intervention and control, in-school and out-of-school categories were correctly labelled. Cases that are incomplete were dropped or analysed separately in the case of absent girls or household respondents.

3.4.2 Field observations and challenges

Some of the challenges encountered and how they were resolved are highlighted below:

Tracking of cohort girls

Despite the protocols put in place, the tracking of cohort girls was difficult because many girls had relocated. Contact information collected at baseline was at times no longer up to date. Many ISG were currently helping on the farms and therefore not in school. In Kaduna, one major problem for intervention schools was impersonation for OSG. After scrutiny by field teams using basic questions about the girls and/or her household, the impersonators revealed they were advised to adopt the identities of the named ENGINE girls. In addition, there were some cases where girls refused to participate in the study.

Insufficient population that met selection criteria

Despite the revised protocol to include new samples at midline, in some clusters, this was not achievable. The main reason was because the schools that were surveyed did not have enough girls that are in the grades of interest or within the target age range. In addition, the marginalisation criteria (see Annex 4 for more details) was also important in the selection of participants in the intervention and control areas and where none of these of these criteria were applicable to the girl, the field team did not engage with them. To mitigate the shortfall, in intervention sites, indirect beneficiaries who are part of the girls' fora were sampled.

Unresponsive program agents

Field teams also encountered situations where program agents (LCF) particularly for out-of-school evaluation, were unavailable to assist during the survey (due to the presence of school inspectors as was the case for one of the schools the team visited). In another instance, some were found to be intentionally unhelpful because of their displeasure towards how the programme is engaging with them. A few others were also absent on the day of visit even with prior notification, and in an extreme case – one was reported dead. In this event, the replacement LCF was unable to give an account of the girls on the tracking sheet. This often meant that the field teams found it difficult to accomplish their daily targets, specifically, the records for girls attendance and performance at learning centres.

Control schools and communities

Some teams expressed difficulty in locating girls, especially the OSGs in the control communities. In some cases, their contacts were either not available or incorrect as interviewers tried to contact the girls. To remedy the situation, interviewers had to replace the girls with the same criteria.

Participant mobilization

Some challenges were faced in recruiting participants to attend scheduled interviews or assessment and these ranged from participant lateness to outright reluctance to attend such meetings.

In Kano, there were cases of lateness to scheduled meetings or outright reluctance to participate in scheduled meetings. For instance, meeting some SS3 in school cohort girls was tedious as there was reluctance amongst them to show up to school when there were no concurrent school activities. To solve this problem, interviewers left copies of the assignment sheet with the schools prior to the day of visit to help mobilize all available girls to the school.

There was limited co-operation from some of the principals at the schools due to ongoing NECO exams and this led to subsequent rescheduling of appointments a number of times to accommodate the principals. Also, some OSG facilitators scheduled their classes for weekend making it impossible to observe classes during weekdays.

3.5 Representativeness of the learning and transition samples, attrition and matching of intervention and control groups

3.5.1 Sample size achieved at midline

Final sample sizes at midline

Quantitative data collection

In this section we present the total sample size for both the ISG and OSG samples achieved during the midline round of research.

Table 13: Quantitative surveys completed with ISG clusters

Summary of ISG achievements – both intervention and control			
Total Sample Size: 1050			
	FCT	**Kaduna**	**Kano**
Girl Questionnaire			
Expected	234	429	377
Achieved	244	419	387
Percentage Completion	104.3%	97.7%	102.7%
Learning Assessments			
Expected	234	429	377
Achieved	232	401	387
Percentage Completion	99.1%	93.5%	102.7%
Household Questionnaire (panel ISG only)			
Expected	130	280	290
Achieved	38	137	186
Percentage Completion	29.2%	48.9%	64.1%
School Survey			
Expected	18	33	29
Achieved	18	33	29

Summary of ISG achievements – both intervention and control			
Total Sample Size: 1050			
Percentage Completion	100.0%	100.0%	100.0%
SBMC			
Expected	18	33	29
Achieved	18	32	28
Percentage Completion	100.0%	97.0%	96.6%
Teacher Interview			
Expected	18	33	29
Achieved	18	32	29
Percentage Completion	100.0%	97.0%	100.0%
Classroom Observation			
Expected	18	33	29
Achieved	18	32	28
Percentage Completion	100.0%	97.0%	96.6%
Attendance and Transition			
Expected	18	33	29
Achieved	15	31	28
Percentage Completion	83.3%	93.9%	96.6%

Table 14: Quantitative surveys completed with OSG clusters

Summary of OSG achievements – intervention only				
Total Sample Size: 1041				
	FCT	**Kaduna**	**Kano**	**Lagos**
Girl Questionnaire				
Expected	180	330	290	240
Achieved	177	327	302	235
Percentage Completion	98.3%	99.1%	104.1%	97.9%
Learning Assessments				
Expected	180	330	290	240
Achieved	177	327	302	235
Percentage Completion	98.3%	99.1%	104.1%	97.9%
Household Questionnaire (panel OSG only)				
Expected	104	224	232	192
Achieved	76	158	158	114
Percentage Completion	73.1%	70.5%	68.1%	59.4%
Class Observation				
Expected	9	16	15	12

Summary of OSG achievements – intervention only				
Total Sample Size: 1041				
	FCT	**Kaduna**	**Kano**	**Lagos**
Achieved	9	15	12	8
Percentage Completion	100.0%	93.8%	80.0%	66.7%
Teacher Interview				
Expected	9	16	15	12
Achieved	9	16	15	11
Percentage Completion	100.0%	100.0%	100.0%	91.7%
Attendance and Transition				
Expected	9	16	15	12
Achieved	8	15	13	12
Percentage Completion	88.9%	93.8%	86.7%	100.0%
CBMC				
Expected	9	16	15	12
Achieved	8	0	8	9
Percentage Completion	88.9%	0.0%	53.3%	75.0%

Table 15 presents a summary of reasons for non-completion of some interviews by instrument.

Table 15: Reasons for uncompleted surveys

Explanations for uncompleted datasets	
Questionnaire	Reasons for uncompletion
Household	Unavailability of household members: Many household members were unavailable to respond to the questionnaire at the time of visit. In some cases, those found in the household knowledgeable about the girl did not meet the eligibility criteria i.e. an adult member that is at least 18 years old. Additionally, there was no one else in the community who has adequate knowledge about the girl. Attempts to reach household members to schedule re-visits were unsuccessful.
Girl Questionnaire and learning assessments	Attrition of girls: There were high rates of attrition between baseline and midline owing to changes in programme targeting, girls who were in SS3 at baseline having completed their schooling or sitting examinations during the survey, and large proportions of JSS3 girls transitioning to senior secondary schools outside of the evaluation sample. These have been described in the section above.
SBMC/CBMC	Lack of established CBMC structures: All OSG communities visited in 4 implementation states had a community-based governance structure often referred to as Community-Based Management Committee (CBMC) or Community Action Committee (CAC) except Kaduna state. Furthermore, re-scheduling a meeting with those unavailable at the time of visit prove futile.
	Unreachable SBMC: For one school in Kano state and Kaduna, it was not possible to conduct an interview because the SBMC had been available at the time of visit and re-scheduling was futile.
Teacher Interview	Unavailability of OSG LSCs and ISG teacher: Out of the 12 intervention clusters, one LCF could not be reached while the survey lasted.
Attendance and Transition	Unavailability of a proper record on ENGINE girls: For some survey clusters at in-school and out-of-school levels, information on the enrolment and academic performance of ENGINE school girls was not available due to inadequate record keeping. In another instance, records were refused to be provided to the field team as the school authorities considered them as sensitive and personal to their learners.

Explanations for uncompleted datasets	
Questionnaire	Reasons for uncompletion
	Another notable challenge faced by the field team during data collection especially among the out-of-school girls was that some learning centre facilitators were newly recruited and assigned to survey clusters after the baseline and when presented with the information of some of these girls at midline, they could not identify them as part of their learning cohorts. Although a few were contacted to make themselves available for the survey, but some others proved impossible to reach after several attempts. One reason to explain this is that because the enrolment of girls was not yet finalised when the baseline was conducted, some of the sampled girls had changed location or dropped out of the programme before the midline. Also, the clusters were redefined by the programme after baseline, so some girls might have been reassigned to a different cluster and to a new LCF that is different from the one that was surveyed at baseline.
Classroom Observation	No learning sessions for OSGs during the week: Some learning spaces in Kano and Kaduna operations only on weekend and this made it impossible for data collector to capture the expected number of classroom observations.

Table 16 shows the sample size of the learning and transition cohorts.

Table 16. Sample size of the learning and transition cohorts

	Treatment			**Control**		
	Baseline cross-sectional	**Midline cross-sectional**	**Panel**	**Baseline cross-sectional**	**Midline cross-sectional**	**Panel**
Learning cohort						
ISG	460	521	186	448	529	179
OSG	463	521	265	457	520	236
Transition cohort						
ISG	460	572	237	448	574	224
OSG	463	549	293	457	520	236

Qualitative data collection

The following qualitative interviews were achieved. All proposed interviews were completed in all the implementation states.

Table 17: Qualitative interviews completed across clusters

Final Sample Size of Qualitative Assessments					
FGDs					
	FCT	**Kano**	**Kaduna**	**Lagos**	**Total**
ISG	2	2	2	-	6
OSG	2	2	2	4	10
SBMC	2	2	2	2	8
KIIs/IDIs					
School teachers/LSCs	2	2	2	***2***	8
Gatekeepers	2	2	2	2	8

Girls' Employers	1	1	1	1	4
System Level Stakeholders	2	2	2	2	8

Attrition between baseline and midline

There were high rates of attrition between baseline and midline owing to changes in programme targeting, girls who were in SS3 at baseline having completed their schooling or sitting examinations during the survey, and large proportions of JSS3 girls transitioning to senior secondary schools outside of the evaluation sample. These reasons have been discussed in more detail in the section above.

In the table below, the results only applies to the number of girls that were lost from sampled schools that were retained in the evaluation cohort as at midline. This means that those lost as a result of programme targeting are not accounted for here. The attrition rate between baseline and midline was more than 46% among out-of-school girls and 60% among in-school girls. Attrition rates were similar in intervention and control areas.

Table 18: Midline sample summary for ISG and OSG

	Intervention	Control	Total
Sample breakdown (In-School Girls)			
Girls lost (only present at baseline)	274 (59.6%)	269 (60.0%)	543 (59.8%)
Girls maintained (present at baseline and midline) (Midline panel)	186 (40.4%)	179 (40.0%)	365 (40.2%)
Total at baseline	460	448	908
Girl replacement and top-up at midline	335	350	685
Total at midline (midline cross-section)	521	529	1,050
Sample breakdown (Out-School Girls)			
Girls lost (only present at baseline)	198 (42.8%)	221 (48.4%)	419 (45.5%)
Girls maintained (present at baseline and midline) (Midline Panel)	265 (57.2%)	236 (51.6%)	501 (54.5%)
Total at baseline	463	457	920
Girl replacement and top-up at midline	256	284	540
Total at midline (midline cross-section)	521	520	1,041

In the next two tables, the attrition rates due to programme targeting and graduation of girls from secondary schools are presented. This does not include attrition due to relocation or school dropout, rather they are estimates for the number of girls that were lost from the programme because their schools, communities are no longer a beneficiary on the programme and if in school, because the girl has completed her secondary school education.

Table 19: Attrition as a result of programme targeting

State	Baseline sample	Excluded after baseline	Baseline sample	Excluded after baseline	ISG Attrition	OSG Attrition
	ISG		OSG			
Intervention clusters						
FCT	130	80	103	64	61.5%	62.1%
Kaduna	180	50	144	40	27.8%	27.8%

State	Baseline sample	Excluded after baseline	Baseline sample	Excluded after baseline	ISG Attrition	OSG Attrition
	ISG		OSG			
Kano	150	0	120	0	0.0%	0.0%
Lagos (OSG only)			96	0	0.0%	0.0%
Total sample size	460	130	463	104	28.3%	22.5%
Control clusters						
FCT	129	50	105	40	38.8%	38.1%
Kaduna	179	30	144	24	16.8%	16.7%
Kano	150	10	120	8	6.7%	6.7%
Lagos (OSG only)			96	0	0.0%	0.0%
Total sample size	458	90	465	64	19.7%	13.8%

Table 20: Attrition as a result of secondary school graduation at midline

State	Intervention	Control	Intervention	Control	Attrition	
	Girls expected to be SSS3 from baseline		Girls surveyed in SSS3 at midline excluding new samples		Intervention	Control
FCT	55 (20.5%)	53 (26.8%)	7 (5.85)	11 (15.3%)	12.7%	20.8%
Kaduna	100 (37.3%)	53 (26.8%)	24 (19.8%)	19 (26.4%)	24.0%	35.8%
Kano	113 (42.2%)	92 (46.5%)	90 (74.4%)	42 (58.3%)	79.6%	45.7%
Total sample size	268 (100.0%)	198 (100.0%)	121 (100.0%)	72 (100.0%)	45.1%	36.4%

In addition to the reasons provided above, cohort tracking during midline also revealed that some of the girls were no longer benefiting from the programme because they relocated out of the survey area, or because child was ill or because the girl travelled and did not return throughout while the survey team were in the cluster.

Another notable fact especially among the out-of-school girls was that some learning centre facilitators were newly recruited after the baseline and when presented with the information of some of these girls at midline, they could not identify them as part of their learning cohorts. This could be because enrolment was not yet finalised when the baseline was conducted, therefore some of the sampled girls were not included ENGINE II. Also, the clusters were redefined by the programme after baseline, so some girls might have been reassigned to a different cluster and a new LCF from those that were surveyed at baseline.

The cohort tracking was conducted on site with the learning centre facilitators and then via phone calls to the primary caregiver whose information was taken at baseline. Challenges encountered on this process during midline majorly a function of some numbers regarded as invalid or not reachable when called. Up to 3 attempts were made to each primary caregiver before the survey was considered as completed. Below is the breakdown of cohort girls that were tracked during the survey.

3.5.3 Sample size by region, grade, age and disability status

The tables below show the sample size by region, grade, age and disability status for the learning cohort.

Region

Compared to baseline, at midline a higher proportion of girls in the intervention group come from Kano state, while there are fewer girls from FCT. In the control group, there are a higher proportion of girls from Kaduna and from Kano at midline, while the proportion of girls from FCT has decreased compared to baseline. This is the result of the loss of a large number of clusters of schools in the FCT that could not be fully compensated through the addition of new clusters and the sampling of additional girls in the existing clusters.

Looking at the panel sample for OSG, the distribution of the sample across the states also shows that the largest attrition from the sample occurred in the FCT, with girls from the FCT making up only 11% of the panel intervention group. Compared to the intervention group, a higher proportion of girls in the control group come from the FCT, while a lower proportion come from Kano.

Table 21: Evaluation sample breakdown by region for ISG

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
FCT	130 (28.3%)	129 (28.8%)	124 (23.8%)	120 (22.7%)
Kaduna	180 (39.1%)	169 (37.7%)	201 (38.6%)	218 (41.2%)
Kano	150 (32.6%)	150 (33.5%)	196 (37.6%)	191 (36.1%)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)

Note: Based on cross-sectional sample.

Table 22. Evaluation sample breakdown by region for OSG

	Intervention	Control
OSG (panel sample)		
FCT	30 (11.3%)	46 (19.5%)
Kaduna	89 (33.6%)	70 (29.7%)
Kano	93 (35.1%)	67 (28.4%)
Lagos	53 (20.0%)	53 (22.5%)
Total sample size	265 (100.0%)	236 (100.0%)

Note: Based on panel sample.

Age

Table 23 and Note: Based on cross-sectional sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Table 24 show the breakdown of the evaluation sample by age, using the age of the girls at baseline for comparability. At midline, the sample is therefore one year older than the ages shown in the table.

Among the ISG, both at baseline and at midline, the majority of girls in the sample are 17 years or younger. However, the proportion of girls who are 17 years or younger is larger in the midline sample, while the proportion of girls aged 18 is smaller. This is because lower grades (SS1 and SS2) were prioritised for sampling replacement/top-up girls at midline.

The OSG are approximately two years older on average than the ISG. Girls in the control group are slightly younger on average than girls in the intervention group.

Table 23: Evaluation sample breakdown by age for ISG

Age at baseline	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Aged 17 or younger	274 (59.6%)	273 (60.9%)	408 (78.3%)	433 (81.8%)
Aged 18	150 (32.0%)	123 (27.5%)	90 (17.3%)	64 (12.1%)

Age at baseline	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Aged 19	27 (5.9%)	29 (6.5%)	18 (3.5%)	11 (2.1%)
Aged 20	8 (1.7%)	11 (2.5%)	2 (0.4%)	6 (1.1%)
Aged 21	2 (0.4%)	2 (0.5%)	0 (0.0%)	2 (0.4%)
Aged 22	1 (0.2%)	8 (1.8%)	3 (0.6%)	5 (1.0%)
Aged 23 or older	1 (0.2%)	2 (0.5%)	0 (0.0%)	8 (1.5%)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)
Mean age (SD)	17.53 (0.79)	17.61 (1.03)	17.28 (0.64)	17.35 (1.01)

Note: Based on cross-sectional sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Table 24: Evaluation sample breakdown by age for OSG

Age at baseline	Intervention	Control
Aged 17 or younger	28 (10.6%)	55 (23.3%)
Aged 18	51 (19.3%)	47 (19.9%)
Aged 19	57 (21.5%)	37 (15.7%)
Aged 20	57 (21.5%)	39 (16.5%)
Aged 21	28 (10.6%)	16 (6.8%)
Aged 22	23 (8.7%)	20 (8.5%)
Aged 23 or older	21 (7.9%)	22 (9.3%)
Total sample size	265 (100.0%)	236 (100.0%)
Mean age (SD)	19.60 (1.72)	19.26 (1.94)

Note: Based on panel sample. The calculation of the average age treats 17 as the minimum (baseline) age and 23 as the maximum (baseline) age for all girls in the sample.

Grade

The distribution of the sample by grade is only relevant for the ISG sample.

The replacement protocol at midline prioritised sampling girls from SS1 and SS2 as replacement or sample top ups. In addition, a substantial proportion of girls who were in SS2 at baseline were lost from the sample because they had already completed school or were sitting exams at the time of the midline survey. As a result, it is not surprising that a larger proportion of girls in the midline cross-sectional sample are in SS1 and SS2 compared to baseline.

At midline, a larger proportion of girls in the intervention group are in SS3, while in the control group, a larger proportion of girls are in SS1 compared to the other grades. It is therefore important that the analysis controls for the grade that the girl is in.

Table 25: Evaluation sample breakdown by grade for ISG

Baseline grade (ML = +1)	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
JSS 3 (SS1)	80 (17.4%)	129 (28.2%)	132 (25.3%)	291 (55.0%)
SS 1 (SS2)	112 (24.4%)	126 (28.6%)	258 (49.5%)	164 (31.0%)
SS 2 (SS3)	268 (58.2%)	193 (43.2%)	131 (25.1%)	74 (14.0%)
Total sample size	460 (100.0%)	448 (100.0%)	521 (100.0%)	529 (100.0%)

Note: Based on cross-sectional sample.

Disability status

In the quantitative survey, girls reported on whether they have a disability, defined as having difficulties in functioning in at least one of six core functional domains (see Box 1).

Box 1. Definition of disability

The disability classification used in this survey is based on a typology of 'functioning' provided by the Washington Group on Disability Statistics, using the World Health Organization's International Classification of Functioning, Disability, and Health as a conceptual framework (Washington Group, 2017). We asked about difficulties in functioning due to a health problem across six core functional domains: seeing, hearing, walking, cognition (remembering and concentrating), self-care (e.g. washing and getting dressed), and communication. Each question had four response categories, which were read after each question:

(1) no, no difficulty;

(2) yes, some difficulty;

(3) yes, a lot of difficulty; or

(4) cannot do it at all.

All interviewed students were administered the Washington Group disability questionnaire (short version). A pupil was considered to have a disability in a domain if they described their level of functioning in that domain as a (3) or (4) using the scale above.

Table 26 shows the proportion of girls in the sample that reported having a disability at baseline and midline based on the definition shown above.

In the ISG sample, the proportion of girls living with disability reduced from 5% at baseline to 2% at midline in the intervention group and from 9% at baseline to 3% at midline in the control group. If we limit the analysis to the panel sample only (not shown), the disability rate amongst panel ISG has fallen in the control group, with fewer girls reporting a functional difficulty with cognition at midline compared to baseline. In the intervention group, the disability rate of panel ISG has remained the same. This suggests that the differences observed in the cross-sectional ISG sample are driven by the fact that girls added to the sample at midline are less likely to report having a disability compared to those who were lost from the sample.

Amongst OSG, the proportion of girls living with a disability has remained similar between baseline and midline. While there are some small shifts, these are based on very small samples and the differences in the overall disability rate are not statistically significant.

Table 26: Evaluation sample breakdown by disability

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
ISG (cross-sectional sample)				
Girls with disability (% overall)	22 (4.8%)	39 (8.7%)	12 (2.3%)**	18 (3.4%)***
Vision impairment	3 (0.7%)	9 (2.0%)	4 (0.8%)	5 (1.0%)
Hearing impairment	2 (0.4%)	3 (0.7%)	4 (0.8%)	1 (0.2%)
Mobility impairment	2 (0.4%)	5 (1.1%)	2 (0.4%)	7 (1.3%)
Cognitive impairment	7 (1.5%)	5 (1.1%)	3 (0.6%)*	2 (0.4%)***
Self-care impairment	9 (2.0%)	20 (4.4%)	3 (0.6%)	4 (0.8%)

	Intervention (Baseline)	Control (Baseline)	Intervention (Midline)	Control (Midline)
Communication impairment	1 (0.2%)	1 (0.2%)	0 (0.0%)	0 (0.0%)
OSG (panel sample)				
Girls with disability (% overall)	6 (2.3%)	3 (1.3%)	5 (1.9%)	8 (3.4%)
Vision impairment	3 (1.1%)	0 (0.0%)	0 (0.0%)*	1 (0.4%)
Hearing impairment	0 (0.0%)	0 (0.0%)	1 (0.4%)	0 (0.0%)
Mobility impairment	1 (0.4%)	0 (0.0%)	2 (0.8%)	6 (2.5%)**
Cognitive impairment	1 (0.4%)	1 (0.4%)	1 (0.4%)	0 (0.0%)
Self-care impairment	1 (0.4%)	2 (0.9%)	1 (0.4%)	1 (0.4%)
Communication impairment	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

3.5.3 Balancing checks between intervention and control groups

Here, we present the balance analysis using baseline datasets and midline for ISG and OSG. For baseline, the whole sample was used and for midline, the first table adopted the cross-sectional sample size (panel + top-up), the second one also used the cross-sectional sample as it's the one we used for ISG and for the last one only the panel data (OSG).

Table 27: Descriptive Statistics and Balance - Balance Baseline (All Girls)

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	923	2.25	0.95	905	2.25	0.96	0.004
A04 Age of Respondent	923	18.43	1.70	905	18.45	1.84	0.016
Education (grade)	923	6.71	2.36	905	6.60	2.50	-0.116
Girls with disability	923	0.04	0.19	905	0.06	0.24	0.023**
Vision impairment	923	0.01	0.10	905	0.01	0.11	0.004
Hearing impairment	923	0.00	0.06	905	0.00	0.07	0.001
Mobility impairment	923	0.01	0.07	905	0.01	0.10	0.005
Cognitive impairment	923	0.01	0.11	905	0.03	0.17	0.017**
Self-care impairment	923	0.00	0.03	905	0.00	0.06	0.002
Communication impairment	923	0.01	0.09	905	0.01	0.09	-0.001
You are orphaned	923	0.34	0.47	905	0.45	0.50	0.112***
You have a sick parent/guardian (over a year)	923	0.22	0.42	905	0.26	0.44	0.032
You are married	923	0.18	0.39	905	0.14	0.35	-0.042**
You are divorced	923	0.02	0.13	905	0.03	0.18	0.017**
You are widowed	923	0.01	0.10	905	0.01	0.10	-0.001
You had a child or children before 18	923	0.16	0.37	905	0.15	0.36	-0.009
You live in a poor household	916	0.44	0.50	901	0.46	0.50	0.023
Household doesn't own land for themselves	923	0.49	0.50	905	0.51	0.50	0.016
Material of the roof is crude	918	0.03	0.17	901	0.05	0.23	0.024**

* p < 0.10, ** p < 0.05, *** p < 0.01.

Table 28: Descriptive Statistics and Balance - Balance Baseline ISG

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	460	2.04	0.78	448	2.05	0.79	0.004

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
A04 Age of Respondent	460	17.47	0.72	448	17.55	0.97	0.016
Education (grade)	460	4.41	0.77	448	4.14	0.84	-0.116
Girls with disability	460	0.05	0.21	448	0.09	0.28	0.023**
Vision impairment	460	0.01	0.08	448	0.02	0.14	0.004
Hearing impairment	460	0.00	0.07	448	0.01	0.08	0.001
Mobility impairment	460	0.00	0.07	448	0.01	0.11	0.005
Cognitive impairment	460	0.02	0.14	448	0.04	0.21	0.017**
Self-care impairment	460	0.00	0.05	448	0.00	0.05	0.002
Communication impairment	460	0.02	0.12	448	0.01	0.11	-0.001
You are orphaned	460	0.35	0.48	448	0.54	0.50	0.112***
You have a sick parent/guardian (over a year)	460	0.19	0.40	448	0.21	0.40	0.032
You are married	460	0.01	0.10	448	0.02	0.15	-0.042**
You are divorced	460	0.00	0.07	448	0.00	0.00	0.017**
You are widowed	460	0.01	0.08	448	0.00	0.07	-0.001
You had a child or children before 18	460	0.01	0.09	448	0.03	0.16	-0.009
You live in a poor household	460	0.44	0.50	447	0.47	0.50	0.023
Household doesn't own land for themselves	460	0.47	0.50	448	0.50	0.50	0.016
Material of the roof is crude	460	0.03	0.18	447	0.07	0.25	0.024**

* p < 0.10, ** p < 0.05, *** p < 0.01

Table 29: Descriptive Statistics and Balance - Balance Baseline OSG

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	463	2.45	1.05	457	2.45	1.06	0.004
A04 Age of Respondent	463	19.38	1.86	457	19.33	2.05	0.016
Education (grade)	463	9.00	0.00	457	9.00	0.00	-0.116
Girls with disability	463	0.03	0.17	457	0.04	0.18	0.023**
Vision impairment	463	0.01	0.11	457	0.01	0.08	0.004
Hearing impairment	463	0.00	0.05	457	0.00	0.05	0.001
Mobility impairment	463	0.01	0.08	457	0.01	0.09	0.005
Cognitive impairment	463	0.00	0.07	457	0.01	0.11	0.017**
Self-care impairment	463	0.00	0.00	457	0.00	0.07	0.002
Communication impairment	463	0.00	0.05	457	0.00	0.07	-0.001
You are orphaned	463	0.33	0.47	457	0.36	0.48	0.112***
You have a sick parent/guardian (over a year)	463	0.25	0.44	457	0.31	0.46	0.032
You are married	463	0.35	0.48	457	0.25	0.44	-0.042**
You are divorced	463	0.03	0.17	457	0.07	0.25	0.017**
You are widowed	463	0.02	0.12	457	0.02	0.12	-0.001
You had a child or children before 18	463	0.31	0.46	457	0.27	0.45	-0.009
You live in a poor household	456	0.44	0.50	454	0.46	0.50	0.023
Household doesn't own land for themselves	463	0.51	0.50	457	0.51	0.50	0.016
Material of the roof is crude	458	0.03	0.16	454	0.04	0.20	0.024**

* p < 0.10, ** p < 0.05, *** p < 0.01.

Table 30: Descriptive Statistics and Balance - Balance Midline Cross-sectional

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	1042	2.36	0.93	1049	2.34	0.92	0.004
Age	1042	19.44	1.87	1049	19.31	1.91	-0.125
Education (grade)	1042	7.00	2.06	1049	6.78	2.26	-0.121
Girls with disability	1036	0.02	0.14	1045	0.04	0.19	0.037*
Vision impairment	1036	0.00	0.07	1045	0.01	0.10	0.005
Hearing impairment	1036	0.01	0.08	1045	0.00	0.04	-0.004
Mobility impairment	1036	0.00	0.06	1045	0.01	0.11	0.010**
Cognitive impairment	1036	0.00	0.07	1045	0.01	0.11	0.008
Self-care impairment	1036	0.00	0.03	1045	0.00	0.00	0.002
Communication impairment	1036	0.00	0.06	1045	0.00	0.05	-0.002
You are orphaned	1036	0.14	0.35	1045	0.21	0.41	0.065***
You have a sick parent/guardian (over a year)	1036	0.13	0.33	1045	0.17	0.38	0.033*
You are married	1036	0.18	0.39	1045	0.16	0.37	-0.044**

You are divorced	1036	0.01	0.12	1045	0.03	0.16	0.013*
You are widowed	1036	0.00	0.07	1045	0.01	0.08	0.000
You had a child or children before 18	1036	0.12	0.32	1045	0.13	0.34	0.001
You live in a poor household	1023	0.40	0.49	1039	0.49	0.50	0.038
Household doesn't own land for themselves	1036	0.45	0.50	1045	0.48	0.50	0.016
Material of the roof is crude	1025	0.02	0.13	1040	0.01	0.12	0.017**

* p < 0.10, ** p < 0.05, *** p < 0.01.

Table 31: Descriptive Statistics and Balance - Midline Cross-sectional Sample ISG

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	795	1.99	0.77	798	2.06	0.78	0.004
Age	795	18.23	0.58	798	18.30	0.93	-0.125
Education (grade)	795	4.75	0.84	798	4.41	0.82	-0.121
Girls with disability	533	0.06	0.23	550	0.08	0.27	0.037*
Vision impairment	789	0.01	0.09	794	0.01	0.11	0.005
Hearing impairment	789	0.01	0.08	794	0.00	0.05	-0.004
Mobility impairment	789	0.00	0.06	794	0.01	0.11	0.010**
Cognitive impairment	789	0.02	0.12	794	0.02	0.15	0.008
Self-care impairment	789	0.00	0.04	794	0.00	0.04	0.002
Communication impairment	789	0.01	0.11	794	0.01	0.09	-0.002
You are orphaned	789	0.23	0.42	794	0.33	0.47	0.065***
You have a sick parent/guardian (over a year)	789	0.14	0.35	794	0.17	0.37	0.033*
You are married	789	0.01	0.09	794	0.02	0.14	-0.044**
You are divorced	789	0.00	0.05	794	0.00	0.06	0.013*
You are widowed	789	0.00	0.06	794	0.00	0.06	0.000
You had a child or children before 18	789	0.01	0.10	794	0.02	0.15	0.001
You live in a poor household	787	0.39	0.49	792	0.45	0.50	0.038
Household doesn't own land for themselves	789	0.43	0.50	794	0.48	0.50	0.016
Material of the roof is crude	787	0.02	0.12	792	0.03	0.17	0.017**

* p < 0.10, ** p < 0.05, *** p < 0.01.

Table 32: Descriptive Statistics and Balance - Midline Panel Sample OSG

	Intervention			Control			Diff-in-diff (T-C)
	n	mean	sd	n	mean	sd	
State	265	2.64	0.93	236	2.54	1.05	0.004
Age	265	20.79	1.91	236	20.14	2.00	-0.125
Education (grade)	265	9.00	0.00	236	9.00	0.00	-0.121
Girls with disability	265	0.02	0.14	236	0.03	0.18	0.037*
Vision impairment	265	0.00	0.00	236	0.00	0.07	0.005
Hearing impairment	265	0.00	0.06	236	0.00	0.00	-0.004
Mobility impairment	265	0.01	0.09	236	0.03	0.16	0.010**
Cognitive impairment	265	0.00	0.06	236	0.00	0.07	0.008
Self-care impairment	265	0.00	0.00	236	0.00	0.00	0.002
Communication impairment	265	0.00	0.06	236	0.00	0.00	-0.002
You are orphaned	265	0.19	0.39	236	0.17	0.38	0.065***
You have a sick parent/guardian (over a year)	265	0.15	0.35	236	0.18	0.38	0.033*
You are married	265	0.39	0.49	236	0.32	0.47	-0.044**
You are divorced	265	0.02	0.15	236	0.05	0.21	0.013*
You are widowed	265	0.01	0.11	236	0.01	0.11	0.000
You had a child or children before 18	265	0.23	0.42	236	0.25	0.43	0.001
You live in a poor household	258	0.44	0.50	233	0.55	0.50	0.038
Household doesn't own land for themselves	265	0.45	0.50	236	0.50	0.50	0.016
Material of the roof is crude	259	0.02	0.12	234	0.01	0.11	0.017**

* p < 0.10, ** p < 0.05, *** p < 0.01.

3.5.4 Learning and transition outcome estimation

Contamination and compliance

During the midline survey, it was observed in a few control schools that some of the ENGINE II programme beneficiaries have infiltrated into their population. This mainly was because some of the girls had transferred from their old schools to these new ones which fall within the control clusters or teachers that were transferred by the education authority within that jurisdiction. Although this was rarely observed, any observation that was identified as a contaminant in the datasets collated from the control clusters were dropped from the datasets. For example, if a respondent identified as an ENGINE beneficiary in a control school, such was excluded before data analysis.

Also, in Kano state where OPM is managing another GEC project, the evaluation teams on both projects worked in sync to ensure that the target areas were exclusive of one another. This was also made possible because the target groups are different, while ENGINE II is focused on older girls in senior secondary schools or of age to be in business or vocational training, the Discovery project – 2 is target children in upper primary and lower secondary schools.

Programme Exposure and Compliance

All girls received tutorial sessions to improve their functional literacy and numeracy skills. In-school girls were provided remedial lessons by grade to aid their learning. Those in examination classes or have graduated from secondary schools and due for the UTME were provided computer-based tutorials to help them prepared for the JAMB examinations.

Out-of-school girls participated in workshops that enlightened them on savings and loan facilities available to them. Savings groups that were established were affiliated and registered as cooperative societies within their respective states.

Also, girl ambassadors received training on mentoring and peer networking, so they are better equipped to support one another in their communities. Trainings were focused on gender and child and vulnerable adult protection issues, leadership and life skills.

Difference in difference approach

The issue we are concerned about is identifying the *effect* of the program on one or more outcomes of interest. For this, we start by defining the problem in its most basic form namely the effect of a discrete 0/1 "intervention". We will denote "intervention status" for a girl *i* by T_i which can take the values of zero or one. Then we define an outcome variable, for example, learning outcomes (SeGRA/EGRA and SeGMA/EGMA), as *Y*. Using the data collected at baseline and midline, each girl will be associated with two values of the outcome variable:

$\{Y_i^0, Y_i^1\}$

Y_i^0 refers to the value of the outcome variable if girl *i* is *not treated*

Y_i^1 refers to the value of the outcome variable if girl *i is treated*

We can then express this in regression form:

$Y_i = (Y_i^1 - Y_i^0) T_i + Y_i^0 = \alpha + \beta_i T_i + u_i$

Where α is the intercept parameter, β_i is the effect of the intervention (slope) on girl *i* and u is the unobservable component of Y. We can do this for each group of girls: ISG and OSG.

Therefore, the impact of a intervention for girl *i* is:

$\beta_i = Y_i^1 - Y_i^0$

and in our case, the evaluation problem consists of the fact that we can never observe β_i. For addressing this problem, we use the Difference in Differences approach. For the use of this approach the assignment to intervention was randomly done, and thus independent from the outcome or the intervention effect. This ensures that the treated and the non-treated groups are equal in all aspects apart from the intervention status. The following are the randomization assumptions:

R1: $E[u_i|T_i = 1] = E[u_i|T_i = 0] = E[u_i]$
R2: $E[\beta_i|T_i = 1] = E[\beta_i|T_i = 0] = E[\beta_i]$

The difference between the two groups before and after the program can be contrasted - thereby creating a difference-in-differences (DID) estimator of the program impact. Let's define the time t=k when the program is implemented (after baseline) and each girl will be observed before (baseline) and after (midline and endline) the program, at times $t=t_0$ and $t=t_1$, respectively, then the DID estimator is defined as:

$$\hat{\beta}^{DID} = \left[\bar{Y}_{t_1}^1 - \bar{Y}_{t_0}^1\right] - \left[\bar{Y}_{t_1}^0 - \bar{Y}_{t_0}^0\right]$$

where $\bar{Y}_t^T$ is the average outcome over group *T* at time *t.* Therefore, the DID estimator measures the excess outcome change for the treated as compared to the non-treated.

Approaches used for estimation of impact for ISG and OSG

For the OSG, while the attrition rate was substantial, the sample remained sufficiently powered to conduct a panel DID analysis at midline. Two separate models were run for the DID analysis, unadjusted (one that does not include any control variables) and adjusted (another that controls for the girls' age and the state, and characteristics that were not balanced at baseline or midline: girls with disability, cognition and mobility impairment, orphaned, married, divorced, have a sick parent/guardian (over a year), and the roof of the property is crude (for more information see Annex 3, section 3.5.3.

For the ISG, the high attrition rates meant that the sample would not be sufficiently powered to detect an effect of the size that is expected. As a result, in consultation with the FM, it was decided that a cross-sectional approach to the analysis would be used. This means that the analysis is based on the full sample of girls that were interviewed at baseline and at midline. Once again, two separate models were run: adjusted (one that does not include any control variables) and adjusted (another that controls for the girls' age, grade and the state, and characteristics that were not balanced at baseline or midline: girls with disability, cognition and mobility impairment, orphaned, married, divorced, have a sick parent/guardian (over a year), and the roof of the property is crude (for more information see Annex 3, section 3.5.3.

Regression models for the learning outcome

Table 33: EGRA literacy for OSGs

```
Linear regression                               Number of obs     =      1,000
                                                F(9, 94)          =      26.25
                                                Prob > F          =     0.0000
                                                R-squared         =     0.2028
                                                Root MSE          =     20.857

                                   (Std. Err. adjusted for 95 clusters in schid)
------------------------------------------------------------------------------
                 |               Robust
      egra_total |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-----------------+------------------------------------------------------------------
             did |   3.659318    1.65962     2.20   0.030     .3641027    6.954532
            time |   2.107205   1.520227     1.39   0.169    -.9112419    5.125651
treatment_status |   .4608046   2.855924     0.16   0.872    -5.209699    6.131309
             age |   .8727901   .6049351     1.44   0.152    -.3283226    2.073903
          impair |  -6.350182   4.765973    -1.33   0.186    -15.81313    3.112769
         married |  -15.01515   2.268783    -6.62   0.000    -19.51988   -10.51043
          orphan |  -2.279442   1.978922    -1.15   0.252    -6.208638    1.649753
      sickparent |   1.583527   1.985659     0.80   0.427    -2.359047      5.5261
       ppi_score |   .6472718    .066444     9.74   0.000     .5153458    .7791978
           _cons |  -18.63934   12.58434    -1.48   0.142    -43.62585    6.347171
```

Table 34: SEGRA literacy for ISGs

Linear regression

Number of obs	1,917
F(16, 168)	31.95
Prob > F	0.0000
R-squared	0.3735
Root MSE	16.309

(Std. Err. adjusted for 169 clusters in schid)

segradid_all	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
did	3.24948	2.083918	1.56	0.121	-.8645605	7.36352
time	-1.133903	1.543952	-0.73	0.464	-4.18195	1.914144
treatment_status	-.722887	1.44093	-0.50	0.617	-3.567549	2.121775
age	-2.095939	.6241095	-3.36	0.001	-3.328047	-.8638317
grade						
SS 1	8.002658	1.807425	4.43	0.000	4.434466	11.57085
SS 2	12.64245	1.792922	7.05	0.000	9.102894	16.18201
SS 3	14.10215	2.712557	5.20	0.000	8.747059	19.45724
impair	-2.554228	2.012723	-1.27	0.206	-6.527717	1.41926
married	2.041837	2.51321	0.81	0.418	-2.919706	7.003379
orphan	-2.711939	1.027457	-2.64	0.009	-4.740328	-.6835492
sickparent	.0873853	1.057405	0.08	0.934	-2.000128	2.174898
ppi_score	.2688274	.0371644	7.23	0.000	.1954581	.3421968
state						
Kaduna	-20.28827	1.817581	-11.16	0.000	-23.87651	-16.70003
Kano	-25.56076	1.832953	-13.95	0.000	-29.17935	-21.94217
nodrinking_water	3.008687	1.24878	2.41	0.017	.5433645	5.47401
no_toilet	.4312709	.9121306	0.47	0.637	-1.369444	2.231986
_cons	50.93167	10.94346	4.65	0.000	29.32725	72.53609

Table 35: EGMA numeracy for ISGs

```
Linear regression                               Number of obs     =      1,000
                                                F(9, 94)          =      16.83
                                                Prob > F          =     0.0000
                                                R-squared         =     0.1474
                                                Root MSE          =     17.824

                                    (Std. Err. adjusted for 95 clusters in schid)
------------------------------------------------------------------------------
             |               Robust
        egma |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
         did |   3.009409   1.699967     1.77   0.080    -.3659165    6.384734
        time |   1.842779   1.408634     1.31   0.194    -.9540975    4.639655
treatment_s~s |   1.082658   2.306037     0.47   0.640    -3.496033    5.661349
         age |   1.155309   .4921687     2.35   0.021     .1780961    2.132521
      impair |  -6.061246   3.693269    -1.64   0.104    -13.39432    1.271827
     married |   -9.51296   2.079694    -4.57   0.000    -13.64224   -5.383679
      orphan |   .2408768   1.704564     0.14   0.888    -3.143575    3.625329
  sickparent |     .80225   1.548596     0.52   0.606    -2.272523    3.877023
   ppi_score |   .4542279    .055976     8.11   0.000     .3430863    .5653696
       _cons |   17.17328   10.70727     1.60   0.112     -4.08626    38.43283
------------------------------------------------------------------------------
```

Table 36: SEGMA numeracy for ISGs

Linear regression

Number of obs	1,917
F(16, 168)	7.31
Prob > F	0.0000
R-squared	0.1467
Root MSE	11.379

(Std. Err. adjusted for 169 clusters in schid)

segma_all	Coef.	Robust Std. Err.	t	P>|t|	[95% Conf.	Interval]
did	4.394427	1.656204	2.65	0.009	1.124773	7.664081
time	.8912725	1.147768	0.78	0.439	-1.374635	3.15718
treatment_status	.3587795	.9122687	0.39	0.695	-1.442208	2.159767
age	-.3337054	.4188889	-0.80	0.427	-1.16067	.4932589
grade						
SS 1	3.429201	1.027832	3.34	0.001	1.400069	5.458332
SS 2	5.697276	1.015755	5.61	0.000	3.691987	7.702564
SS 3	6.238963	2.082477	3.00	0.003	2.127767	10.35016
impair	-1.718057	1.023864	-1.68	0.095	-3.739355	.3032406
married	2.643781	2.363744	1.12	0.265	-2.022686	7.310249
orphan	-1.578307	.5893793	-2.68	0.008	-2.741851	-.4147631
sickparent	.6688844	.8179026	0.82	0.415	-.9458069	2.283576
ppi_score	.08031	.0230324	3.49	0.001	.0348398	.1257802
state						
Kaduna	-4.967267	1.141589	-4.35	0.000	-7.220975	-2.713559
Kano	-6.804102	1.09509	-6.21	0.000	-8.966012	-4.642192
nodrinking_water	1.21546	.7660094	1.59	0.114	-.2967847	2.727704
no_toilet	.9335442	.5924846	1.58	0.117	-.2361301	2.103219
_cons	6.448674	7.589098	0.85	0.397	-8.533611	21.43096

Annex 4: Characteristics and Barriers

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (cross-sectional sample)				
Orphan	34.6	19.6***	53.6	33.1***
Living with a sick parent/guardian	19.3	11.5***	20.5	15.6**
Married	1.1	1.0	2.5	2.3
Got married at or before age 18	1.3	1.0	2.5	3.2
Divorced	0.4	0.2	0.0	0.6*
Widowed	0.7	0.0*	0.4	0.4
Had a child at or before age 18	0.9	0.8	2.7	2.5
N	460	521	448	529
OSG (panel sample)				
Orphan	31.7	39.6*	33.5	39.4
Living with a sick parent/guardian	27.9	14.7***	28.0	17.8***
Married	34.3	38.9	28.4	32.2
Got married at or before age 18	32.1	38.1	30.9	39.4*
Divorced	1.5	2.3	6.4	4.7
Widowed	1.9	1.1	1.7	1.3
Had a child at or before age 18	28.7	37.4**	26.7	35.2**
N	265	265	236	236

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (panel sample)				
Primary caregiver has no education	34.9	18.5***	30.2	15.0***
N	186	184	238	173
OSG (panel sample)				
Primary caregiver has no education	26.0	10.5***	26.3	19.5*
N	265	256	236	231

Note: Based on data from household survey which was only collected for panel households. Sample sizes at baseline and at midline differ because not all households of panel girls could be tracked at midline. Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Characteristics	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
ISG (cross-sectional sample)				
Extreme poverty rate (based on poverty line of $1.90 / day)	12.7	11.3	13.4	13.2
Poverty rate (based on poverty line of $3.10/day)	37.6	35.3	38.6	37.9
Household does not own land for themselves	47.2	42.7	50.2	45.7
OSG (panel sample)				
Extreme poverty rate (based on poverty line of $1.90 / day)	12.4	12.8	14.6	14.4
Poverty rate (based on poverty line of $3.10/day)	38.2	38.5	41.8	41.7
Household does not own land for themselves	49.8	45.3	54.2	50.4

	Intervention (Baseline) (%)	Intervention (Midline) (%)	Control (Baseline) (%)	Control (Midline) (%)
High chore burden (spends 1+ hours a day on household chores)	56.3	54.1	59.8	60.9
Very high chore burden (spends 4+ hours a day on household chores)	3.8	6.6	6.4	4.1
Caregiver agrees investing in girls' education is worth it even when funds are limited	98.9	94.0**	98.3	91.9***

Note: Based on data from household survey which was only collected for panel households. Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

	Intervention (Baseline) (%)	**Intervention (Midline) (%)**	**Control (Baseline) (%)**	**Control (Midline) (%)**
Long travel distance and safety (ISG)				
Travel for 30 minutes or longer (one-way) to/from school	31.5	38.0**	34.7	41.6**
Doesn't feel safe travelling to/from school	8.5	5.2**	12.1	8.6*
School facilities (ISG)				
Not enough seats for all students	32.0	32.2	35.1	35.8
Difficult to move around school	11.3	11.7	13.0	10.2
School does not have drinking water facilities	29.8	29.2	29.7	32.7
Girl does not use the toilet at school	45.9	60.0***	45.5	58.0***
Girl does not feel safe using the toilet at school *(of girls who use the toilet)*	39.2	39.4	43.0	29.4***
Girl does not feel safe at school	3.3	2.3	6.7	4.0*

Note: Asterisks indicate where means differ significantly between baseline and midline at the following levels: *** p<.01, ** p<.05, * p<.1.

Annex 7: Project design and intervention

Project to complete

Complete the following table.

Table 26: Project design and intervention

Intervention types	What is the intervention?	What output will the intervention contribute to?	What Intermediate Outcome will the intervention will contribute to and how?	How will the intervention contribute to achieving the learning, transition and sustainability outcomes?
Learning centres	Provide dedicated safe spaces for learning and social skills	Output 1. Enhanced learning experiences for marginalised ENGINEII girls in target areas	IO 1: Number of marginalised girls who record improved attendance at safe space learning centres and at classrooms	This centres provides physical safe spaces for extra lessons by professional teachers so girls can have access to high quality supports in literacy and numeracy for progression to higher classes
Livelihood opportunities	Financial skills lessons, linkage to VTIs, business expansion, loan linkages	Output 3. Enhanced life skills training opportunities for marginalised ENGINE girls in target areas	IO 3: Economic Opportunities Percentage of marginalised girls who evidence increase in their financial situation and report access to economic opportunities	Provides participants with skills necessary for self-sufficient including knowledge, vocational skills and asset building opportunities.
Financial Inclusion	Opening bank accounts, NIMC registration, cooperatives	Output 2. Increased asset building skills and income-generation for marginalised ENGINE girls in target areas	IO 3: Economic Opportunities Percentage of marginalised girls who evidence increase in their financial situation and report access to economic opportunities	To provide participants access to financial inclusion service for business expansion and improve income.
Life Skills lesson	Lesson featuring menstrual health hygiene management, types of abuse, etc	Output 3. Enhanced life skills training opportunities for marginalised ENGINE girls in target areas	IO 4: Life Skills Percentage of girls who demonstrate increased knowledge on ENGINE II life skills curriculum	Provides knowledge and skills necessary for successful transition to adulthood for effective decision making, self-esteem, etc
Community initiative	Gender Champions/ SHEro advocate	Output 4	IO 1: Number of marginalised girls	Supportive parents and communities encourage

		Improved gatekeeper commitment towards girls' education and empowerment in target areas	who record improved attendance at safe space learning centres and at classrooms	higher attendance, retention and better learning outcomes. Community led initiatives provide a sustainable culture shift.
Teachers training	TPDD, Master trainers supervision of LCFs, coaching	Output 1. Enhanced learning experiences for marginalised ENGINEII girls in target areas	IO 2: Teaching Quality Number of teachers who demonstrate the application of learners' centred teaching learning methodology	To improve teachers capacity for effective delivery of learning session to girls. Coaching session will be sustained after programme for continue teachers capacity building.
Teaching and learning material support	Provide learning materials, handbooks, facilitation guides, training on improvised material creation	Output 1. Enhanced learning experiences for marginalised ENGINEII girls in target areas	IO: Teaching Quality Number of teachers who demonstrate the application of learners' centred teaching learning methodology	The teaching and learning materials provided helps teachers to deliver effective lessons that facilitates enhance learning experience for participants. The provided materials will be used by the teachers after the programme closeout for sustainability and adaptation.
Governance	State Advisory Groups, engagement with high level policy implementers, systems strengthening (leveraging manpower, data collection, and existing processes)	Output 5 Expanded protection policies and practices benefitting adolescent girls and young women in target areas and nationally	IO 5: SBMCs and PTAs take actions to make school an enabling and supportive environment for both girls and boys	Linking girls to existing education opportunities within government structures, hub of capacities within the state to use for scale up, interventions are aligned with gov't policies for scale up.
Capacity Building- School Governance	Principal's training, SBMC/PTA trainings and engagement, leverage as monitors for LCFs	Output 1 Enhanced learning experiences for marginalised ENGINEII girls in target areas Output 5 Expanded protection policies and practices benefitting	IO 5: SBMCs and PTAs take actions to make school an enabling and supportive environment for both girls and boys	Supportive school structures enhance learning opportunities for margianalized girls

		adolescent girls and young women in target areas and nationally		
Child and Vulnerable Adult Protection	CVAP manual, referral protocol, G&C training, HISBAH training and engagement for localized protection, advocacy for designated family and child courts.	Output 5 Expanded protection policies and practices benefitting adolescent girls and young women in target areas and nationally	IO 5: SBMCs and PTAs take actions to make school an enabling and supportive environment for both girls and boys	Protection of students enhances learning. The state adopted referral protocol creates sustainable pathways for protection. Family and child courts will facilitate efficient and effective prosecutory actions.
GESI	Gender training, Community advocacy, stakeholder training, disability assessments	Output 1,2,3,4,5	Intermediate Outcome (IO): 1,2,3,4,5	Gender awareness amongst all stakeholders and school governance enhances sensitivity to gender specific issues and helps create a culture gender sensitive services.

Annex 8: Key findings on Output Indicators

This annex should be completed by the project.

The Evaluator should hand over any output-related data to the project to enable the project to populate the following tables.

Fill in the table below with every Output Indicator, means of verification/sources, and the frequency of data collection. Please include output indicators for which data collection has not yet taken place and state when data collection for these will take place.

Table 1: Output indicators

Logframe Output Indicator	Means of verification/sources	Collection frequency
Number and Indicator wording	List all sources used.	E.g. monthly, quarterly, annually. NB: For indicators without data collection to date, please indicate when data collection will take place.
Output 1: Enhanced learning experiences for marginalised ENGINEII girls in target areas		
Output 1.1: Number of Learning Centres Facilitators trained and mentored on learners' centred teaching methodology to improve learning outcomes	Training Attendance Register	During the trainings During refresher trainings (every three months after the initial training) During mentoring sessions
Output 1.2: Percentage of eligible OOS girls supported by the project to re-enter formal education and to pass NECO/WAEC/JAMB examinations. (Eligibility here signifies OOS girls who have dropped out of school, are willing to re-enter school and are enrolled at the safe space learning centre)	Enrolment Records Project Monitoring Data	**Registration Data:** Three times during the project period at the beginning of every new school session **Safe Space Attendance:** when weekly attendance are collected, girls who were not in school but were eligible and have gone back to school with evidence will be reported. **KIIs:** Interviews will also be conducted quarterly with girls who have re-entered schools
Output 1.3: Number of IS girls registered for Senior School Certificate Examination (SSCE)	Project Monitoring Data Examination Register Cards	Twice (April 2018 and 2019) during the project period during the time when students register for SSCE examinations
Output 1.4: Number of IS learning centres established	Project Monitoring data	Annually

Output 1.5: Number of OOS learning centres established	Project Monitoring data	Annually
Output 2: Increased asset building skills and income-generation for marginalised ENGINE girls in target areas		
Output 2.1: Number of OSGs provided with 'level 2' vocational training on business and entrepreneurship skills**.**	Training enrolment and completion records Project Monitoring data	During the trainings - four times during programme implementation
Output 2.2: Percentage of OSGs enrolled in learning centres reporting access to financial service providers. Note: Financial service providers include MFIs, banks, cooperatives or government agencies.	Project monitoring data ATM cards/cooperative registration cards	Quarterly - data will be collected on this indicator
Output 2.3: Number of girls registered to access National Identity Management Card (NIMC)	Project monitoring data Copy of the registration document	Monthly
Output 2.4: Number of partnerships signed with the private sector for the business diversification and expansion of ENGINE II OSGs	Project monitoring data MoU copies	Upon signing of agreements with the private sector
Output 3: Enhanced life skills training opportunities for marginalised ENGINE girls in target areas		
Output 3.1: Number of girl ambassadors trained to provide peer- to- peer mentoring to non-ENGINE II girls	Training Attendance	During and after the trainings
Output 3.2: Number of meetings where participants/community members take decisions to promote girls education	Project monitoring data Meeting notes	Quarterly
Output 3.3: Number of guidance counsellors trained to provide counselling to in ENGINE II schools	Project monitoring data Training register	During each training session. 3 trainings as planned
Output 4: Improved gatekeeper commitment towards girls' education and empowerment in target areas		

Output 4.1: Number of SHEro advocates raising awareness on issues faced by marginalised girls in project communities	Project monitoring data Documents on advocacy events	Quarterly
Output 4.2: Number of action plans developed by SBMC/PTAs and other stakeholders to make gender friendly schools	SBMCs/PTAs meeting minutes Action plan documentation	Three times during the period (baseline, midline and endline); however project will collect periodic data during the SBMCs and PTA meetings
Output 5: Expanded protection policies and practices benefitting adolescent girls and young women in target areas and nationally		
Output 5.1: Number of girls, parents, boys, SBMCs/PTAs trained on gender and protection issues	Training attendance records Project monitoring data	During the trainings - Two times during implementation
Output 5.2: Number of campaigns initiated to address key barriers to girls education and empowerment	Project monitoring data	Monthly
Output 5.3: Number of schools developing/re-enforcing/updating school policies and codes of conduct on bullying, harassment, exploitation and abuse.	Project monitoring data Copies of policies and code of conduct	Three times (baseline, midline and endline); however project will collect periodic data collection during school policies development

Report on the midline values/midline status of each Output Indicator in the table below. Reflect on the relevancy of the Output Indicator for your Intermediate Outcomes and Outcomes and the wider Theory of Change based on the data collected so far. Are the indicators measuring the right things? What do the midline values/midline status mean for the implementation of your activities?

Table 28: Midline status of output indicators

Logframe Output Indicator	Midline status/midline values Relevance of the indicator for the project ToC	Midline status/midline values
Number and Indicator wording	What is the contribution of this indicator for the project ToC, IOs, and Outcomes? What does the midline value/status mean for your activities? Is the indicator measuring the right things? Should a revision be considered? Provide short narrative.	What is the midline value/status of this indicator? Provide short narrative.
Output 1: Enhanced learning experiences for marginalised ENGINEII girls in target areas		
Output 1.1: Number of Learning Centres Facilitators trained and mentored on learners'	This indicator is effective. We believe that continuous training and mentoring will improve the teaching skills of the LCFs and we are	**Target - 800** **Achieved - 1035** At midline the programme has trained 1035 volunteer teachers

centred teaching methodology to improve learning outcomes	investing more resources to ensure this is carried on continuously and effectively across all our implementing sites.	across its programme sites. However, only 907 were retained as Learning Center Facilitators by Midline. Monthly teachers' professional development days were also conducted to provide continued training in learner-centred teaching to the LCFs.
Output 1.2: Percentage of eligible OOS girls supported by the project to re-enter formal education and to pass NECO/WAEC/JAMB examinations. (Eligibility here signifies OOS girls who have dropped out of school, are willing to re-enter school and are enrolled at the safe space learning centre)	While the programme is keen to support girls to return to school and transition to higher levels of education, the results of preliminary assessments suggests that many girls are not at the academic level necessary to benefit from enrolment in intensive coaching centres. This confirms the findings of the learner's needs assessment which revealed that many of the program participants reported grade level is drastically overestimated.	**Target – 30%** **Achieved – 62%** Out of 2,197 girls who indicated willingness to re-enter school the programme has supported 1,362 girls across programme sites OOS girls to register for transitional examinations such as NECO/WAEC/JAMB.
Output 1.3: Number of IS girls registered for Senior School Certificate Examination (SSCE)	The programme will adapt this strategy by working with girls based their capacity rather than their reported grade, supporting each learner on their journey.	**Target - 200** **Achieved - 0** *Learning sessions began in Q6 (September 2018) and the programme has not been able to register any girl for SSCE because the registration window for IS girls in not open until later in the year. However, there are 5502 IS girls on ENGINE II and we are confident in meeting the target of registering 200 girls. In addition, Kano state government provides free registration for girls who pass the qualifying exam set by the government which should increase the number of girls registering.*
Output 1.4: Number of IS learning centres established	This indicator is effective as it helps to track girls' retention and transition of girls in schools.	**Target - 80** **Achieved - 169** *169 IS learning centres have been established as against the target 80. 25 in FCT, 77 in Kaduna and 67 in Kano.*

Output 1.5: Number of OOS learning centres established	The indicator is effective	**Target - 450** **Achieved - 530** *530 OOS learning centres have been established as against the target of 450. There were a few challenges with locating venues for the OOS learning centres, however, community spaces were provided where schools could not initially be secured*
Output 2: Increased asset building skills and income-generation for marginalised ENGINE girls in target areas		
Output 2.1: Number of OSGs provided with 'level 2' vocational training on business and entrepreneurship skills**.**	*The indicator is effective* *This indicator supports the theory of change for effective transition of OSGs.*	**Target - 1500** **Achieved - 0** The programme has initiated partnerships with artisans and vocational training institutes across the implementing states and girls have been assessed to identify their areas of interest. In Kaduna and Kano over 1,000 girls have been linked to MAFITA for further assessment and induction into their vocational training programme.
Output 2.2: Percentage of OSGs enrolled in learning centres reporting access to financial service providers. Note: Financial service providers include MFIs, banks, cooperatives or government agencies.	*The indicator is effective* *This indicator supports the theory of change for effective transition of OSGs.*	**Target – 58%** **Achieved – 17%** 1,051 participants have been supported by the programme to open bank accounts. ENGINE II is partnering with Access bank to open accounts for the girls at no cost and engaging with other banks in communities where Access bank is not available. Girls have also been trained in as mobile bank agents in Lagos state.
Output 2.3: Number of girls registered to access National Identity Management Card (NIMC)	*The indicator is effective* *This indicator supports the theory of change for effective transition of OSGs. Obtaining a NIMC Card facilitates access to financial services*	**Target - 5000** **Achieved – 2548** Interruptions in the government process for obtaining a NIMC Card affected the achievement of this indicator at Midline.
Output 2.4: Number of partnerships signed	*The indicator is effective*	**Target - 3** **Achieved - 5**

with the private sector for the business diversification and expansion of ENGINE II OSGs	*This indicator supports the theory of change for effective transition of OSGs.*	In Kaduna and Kano partnership were signed with vocational skills institutes to provide opportunities for girls to learn various trades within their community.
Output 3: Enhanced life skills training opportunities for marginalised ENGINE girls in target areas		
Output 3.1: Number of girl ambassadors trained to provide peer- to- peer mentoring to non-ENGINE II girls	*The indicator is effective* *This indicator allows the programme to track*	**Target - 200** **Achieved - 365**
Output 3.2: Number of meetings where participants/community members take decisions to promote girls education	This indicator is effective Enables to the programme to track its sustainability strategy at community level to create an enabling environment for girls.	**Target - 35** **Achieved - 56** Advocacy meeting have been held across programme communities where traditional leaders as well as Community Action Committee and parents have been engaged to take decisions to promote girls education
Output 3.3: Number of guidance counsellors trained to provide counselling to in ENGINE II schools	This indicator is effective Enables to the programme to track its sustainability strategy at school level to create an enabling environment for girls. This is also effective to ensure effective transition of ISG where girls receive counselling on school performance and educational progression.	**Target - 70** **Achieved – 110** Out of which 8 male and 87 female i.e. 95 guidance counsellors have been retained on the programme at Midline.
Output 4: Improved gatekeeper commitment towards girls' education and empowerment in target areas		
Output 4.1: Number of SHEro advocates raising awareness on issues faced by marginalised girls in project communities	This indicator is effective Enables to the programme to track its sustainability strategy at community level to create an enabling environment for girls.	**Target - 40** **Achieved - 69** Media practitioners as well as key community members have received training and are raising awareness about various issues affecting girls education.
Output 4.2: Number of action plans developed by SBMC/PTAs and other stakeholders to make gender friendly schools	This indicator is effective Enables to the programme to track its sustainability strategy at school level to create an enabling environment for girls.	**Target - 30** **Achieved - 0** At Midline the programme had not initiated meetings with SBMC/PTAs to develop action plans

Output 5: Expanded protection policies and practices benefitting adolescent girls and young women in target areas and nationally		
Output 5.1: Number of girls, parents, boys, SBMCs/PTAs trained on gender and protection issues	This indicator is effective Enables to the programme to track its sustainability strategy at school level to create an enabling environment for girls.	**Target - 5000** **Achieved - 2209** Gender assemblies at mixed programme schools (especially in FCT) are used to train boys on gender and protection issues. Parents/SBMCs/PTAs have also been engaged at the school and community level.
Output 5.2: Number of campaigns initiated to address key barriers to girls education and empowerment	This indicator is effective Enables to the programme to track its sustainability strategy at school level to create an enabling environment for girls.	**Target - 2** **Achieved - 20**
Output 5.3: Number of schools developing/re-enforcing/updating school policies and codes of conduct on bullying, harassment, exploitation and abuse.	This indicator is effective Enables to the programme to track its sustainability strategy at school level to create an enabling environment for girls.	**Target - 30** **Achieved - 35** All programme school in Kaduna state have adopted the schools code of conduct jointly developed by the state. The programme anticipates that other states will also adopt the code of conduct ahead of Endline.

List all issues with the means of verification/sources or the frequency of data collection which require changes or additions.

Table 3: Output indicator issues

Logframe Output Indicator	Issues with the means of verification/sources and the collection frequency, or the indicator in general?	Changes/additions
Number and Indicator wording	E.g. inappropriate wording, irrelevant sources, or wrong assumptions etc. Was data collection too frequent or too far between? Or no issues?	E.g. change wording, add or remove sources, increase/decrease frequency of data collection; or leave as is.
Output 1: Enhanced learning experiences for marginalised ENGINEII girls in target areas		
Output 1.1: Number of Learning Centres Facilitators trained and mentored on learners' centred teaching methodology to improve learning outcomes	**No issues**	
Output 1.2: Percentage of eligible OOS girls supported	**No issues**	

by the project to re-enter formal education and to pass NECO/WAEC/JAMB examinations. (Eligibility here signifies OOS girls who have dropped out of school, are willing to re-enter school and are enrolled at the safe space learning centre)		
Output 1.3: Number of IS girls registered for Senior School Certificate Examination (SSCE)	Recent government policies in Kaduna and Kano which states that the state government will be responsible for the registration of SSCE may limit the ability of the programme to achieve targets by Endline. Hence the programme proposes additions to this indicator.	Number of IS girls supported to transition to tertiary institutions. *This will include ISG registered for Senior School Certificate Examination (SSCE) **or ISG provided with bursaries/scholarships for tertiary institutions.**
Output 1.4: Number of IS learning centres established	No new learning centers are expected to be established Endline target has already been exceed	This indicator will no longer be tracked
Output 1.5: Number of OOS learning centres established	No new learning centers are expected to be established	This indicator will no longer be tracked
Output 2: Increased asset building skills and income-generation for marginalised ENGINE girls in target areas		
Output 2.1: Number of OSGs provided with 'level 2' vocational training on business and entrepreneurship skills**.**	**No issues**	
Output 2.2: Percentage of OSGs enrolled in learning centres reporting access to financial service providers. Note: Financial service providers include MFIs, banks, cooperatives or government agencies.	**No issues**	
Output 2.3: Number of girls registered to access National	**No issues**	

Identity Management Card (NIMC)		
Output 2.4: Number of partnerships signed with the private sector for the business diversification and expansion of ENGINE II OSGs	**No issues** **Midline achievement currently exceeds Endline target**	Endline target to be revised
Output 3: Enhanced life skills training opportunities for marginalised ENGINE girls in target areas		
Output 3.1: Number of girl ambassadors trained to provide peer- to- peer mentoring to non-ENGINE II girls	**No issues**	
Output 3.2: Number of meetings where participants/community members take decisions to promote girls education	**No issues**	
Output 3.3: Number of guidance counsellors trained to provide counselling to in ENGINE II schools	**No issues**	
Output 4: Improved gatekeeper commitment towards girls' education and empowerment in target areas		
Output 4.1: Number of SHEro advocates raising awareness on issues faced by marginalised girls in project communities	**No issues**	
Output 4.2: Number of action plans developed by SBMC/PTAs and other stakeholders to make gender friendly schools	**No issues**	
Output 5: Expanded protection policies and practices benefitting adolescent girls and young women in target areas and nationally		
Output 5.1: Number of girls, parents, boys, SBMCs/PTAs trained on gender and protection issues	**No issues**	

Output 5.2: Number of campaigns initiated to address key barriers to girls education and empowerment	**No issues**	
Output 5.3: Number of schools developing/re-enforcing/updating school policies and codes of conduct on bullying, harassment, exploitation and abuse.	**No issues**	

Annex 9: Beneficiaries tables

This annex should be completed by the project.

Describe the project's primary target groups in terms of age range, grades, country/region, characteristics, and expected exposure to interventions over the course of the project.

Provide the target number of girls' beneficiaries (direct learning and transition beneficiaries) and the monitoring data that support this number (for example, in-school population numbers, number of schools, number of communities etc.). Describe the method for calculating the number, any assumptions made.

Describe how the project defines educational marginalisation for its context and how this definition has been applied to selecting beneficiaries. What proportion of direct beneficiaries are estimated as still meeting this definition of educational marginalisation (if known) and how has this been verified? (See GESI addendum for Midline Template - Dec 2018 for the FM marginalisation framework and terminology)

Are boys receiving project interventions? How are these boys selected?

Present and justify any difference to baseline.

Please fill in the tables below. Individuals included in the project's target group should be direct beneficiaries of the project.

Table 30: Direct beneficiaries

Beneficiary type	Total project number	Total number of girls targeted for learning outcomes that the project has reached by Endline	Comments
Direct learning beneficiaries (girls) – girls in the intervention group who are specifically expected to achieve learning outcomes in line with targets. If relevant, please disaggregate girls with disabilities in this overall number.	Total number of beneficiaries – **18,048** In-School-Girls – 5,699 Out-of-School girls – 12,349	[This may equal the total project number in the outcomes spreadsheet and in the column to the left, or may be less if you have a staggered approach]	At baseline total number of beneficiaries was 16,005 and since then an additional 2,043 have been enrolled on the programme.

Table 31: Other beneficiaries

<table>
<tr><th>Beneficiary type</th><th>Number</th><th>Comments</th></tr>
<tr><td>Learning beneficiaries (boys) – as above, but specifically counting boys who will get the same exposure and therefore be expected to also achieve learning gains, if applicable.</td><td>None</td><td></td></tr>
<tr><td>Broader student beneficiaries (boys) – boys who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.</td><td>None</td><td></td></tr>
<tr><td>Broader student beneficiaries (girls) – girls who will benefit from the interventions in a less direct way, and therefore may benefit from aspects such as attitudinal change, etc. but not necessarily achieve improvements in learning outcomes.</td><td>Estimate of</td><td>Through Girl Fora (Girl Clubs) the programme has reached over xxxx. These girls benefit from step down trainings from trained Girl Ambassadors on Gender, Life Skills and Financial Education.</td></tr>
<tr><td>Teacher beneficiaries – number of teachers who benefit from training or related interventions. If possible /applicable, please disaggregate by gender and type of training, with the comments box used to describe the type of training provided.</td><td><table><tr><th></th><th>Male</th><th>Female</th><th>Total</th></tr><tr><td>Learning Center Facilitators</td><td>55</td><td>852</td><td>907</td></tr><tr><td>Guidance Counsellors</td><td>8</td><td>87</td><td>95</td></tr><tr><td>Master Trainers</td><td>23</td><td>98</td><td>121</td></tr></table></td><td>1035 Volunteer Teachers were including Guidance Counsellors were trained on the ENGINE II Learner Centred Teaching Methodology. However only 907 Volunteer teachers were then retained as Learning Center Facilitators to deliver the ENGINE II teaching and learning (T&L) strategy across established learning centres in the four implementing states.</td></tr>
<tr><td>Broader community beneficiaries (adults) – adults who benefit from broader interventions, such as community messaging /dialogues, community advocacy, economic empowerment interventions, etc.</td><td>1,696
(Male – 974, Female – 722).</td><td>Gender training has been cascaded to stakeholders including community leaders, parents and husbands of girls reaching 1696 participants cumulatively).</td></tr>
</table>

- Tables 32-35 provide different ways of defining and identifying the project's target groups. They each refer to the same total number of girls, but use different definitions and categories. These are girls who can be counted and have regular involvement with project activities.

- The total number of girls in the last row of Tables 32-35 should be the same – these are just different ways of identifying and describing the girls included in the sample.

Table 1: Target groups - by school

School Age	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Lower primary			
Upper primary			
Lower secondary	x	748	890 girls
Upper secondary	x	3811	3,624 girls
Total:			[This number should be the same across Tables 32-35]

Table 2: Target groups - by age

Age Groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Aged 6-8 (% aged 6-8)			
Aged 9-11 (% aged 9-11)			
Aged 12-13 (% aged 12-13)			
Aged 14-15 (% aged 14-15)	X	231 (1%)	
Aged 16-17 (%aged 16-17)	X	2582 (14%)	2,161 girls
Aged 18-19 (%aged 18-19)	X	7143 (40%)	6,357 girls
Aged 20+ (% aged 20 and over)	X	8092 (45%)	7,223 girls
Total:			[This number should be the same across Tables 32-35]

Table 3: Target groups - by sub group

Social Groups	Programme definition of target group (Tick where appropriate)	Number targeted through programme interventions	Sample size of target group at Baseline
Disabled girls (please disaggregate by disability type)	✓	**195**	**220**
Orphaned girls	✓	**2047**	**2,103**

Social Groups	Programme definition of target group (Tick where appropriate)	Number targeted through programme interventions	Sample size of target group at Baseline
Pastoralist girls		**0**	
Child labourers		**0**	
Poor girls and girls who cannot attend school due to their peculiar home circumstance	✓	**8652**	**6,747**
Other – Girls who were married before 18	✓	**1373**	**1,443**
Other – Girls who were pregnant or had a child before 18	✓	**846**	**903**
Other – Girls who have a chronically ill parent or spouse	✓	**106**	**887**
Other – Girls who are divorced or widowed	✓	**855**	**111**
Other – Girls who attend a faith based school (Islamiyya) or who had not completed junior secondary school	✓	**633**	**2,643**
Other – Girls who are from a single headed household	✓	**2891**	**2,966**
Other – Girls who did not attend primary school	✓	**447**	**439**
Total:		**18,048**	16,005

Table 4: Target groups - by school status

Educational sub-groups	Project definition of target group (Tick where appropriate)	Number targeted through project interventions	Sample size of target group at Baseline
Out-of-school girls: have never attended school	**X**	**12,057**	**9,673**
Out-of-school girls: have attended school, but dropped out	**X**	**292**	**404**
Girls in-school	**X**	**5699**	**5,928**

Total:		**18,048**	16,005

Once the project has provided information as per the guidance box and tables 30-35 above, the External Evaluator must:

- Review the numbers and methodology proposed by the project. Comment on the counting methodology, the assumptions that are made, the expected quality of the data underpinning the final numbers (e.g. project own monitoring data and government data).
- Was data collected, e.g. in the school survey, that enables to verify any of the assumptions made by the project in calculating the beneficiary numbers? Examples of such data would be: size and number of communities, size and number of schools, size and number of classrooms, size and numbers of girls clubs, number of disabled girls, number of girls at risk of dropping from school, dropouts in the last year etc. Present any of these data and compare them with the project. monitoring data. You can use the sample data collected and presented in Annex 3 to elaborate.
- When the available evidence is considered, do the proposed beneficiary numbers look reliable? Why yes or why not?

Table 36: Beneficiaries matrix

Outcomes	Direct beneficiaries			Indirect beneficiaries				
	In-school girls (6-10 grade)	OSG (6-9 years)	OSG (18-25)	In-school boys	HT/Teachers	Parents	SMC/PTA	Local government
Learning	X		X					
Transition	X		X					
Sustainability	X	X					X	X
IO 1: Attendance	X	X						
IO 2: Self-esteem and empowerment	X	X						
IO3: Parental engagement						X	X	
IO4: Quality of teaching					X	X	X	
IO5: School management and governance	X				X	X	X	X

ENGINE II Midline Survey

Combined State Qual Report

OPM Nigeria

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Table of Contents

List of Abbreviations

CAC	Community Action Committee
CAPI	Computer Assisted Personal Interviewing
CBMC	Community Based Management Committee
CSOs	Civil Society Organizations
DFID	Department for International Development
ENGINE	Educating Nigerian Girls in New Enterprises
FCT	Federal Capital Territory
FGDs	Focus Group Discussions
GEC	Girls Education Challenge
ISGs	In-School Girls
KIIs	Key Informant Interviews
LGAs	Local Government Areas
LSCs	Learning Space Coordinators
OPM-N	Oxford Policy Management Nigeria
OSGs	Out-of-School Girls
PTA	Parents Teacher Association
SBMC	School-Based Management Committee
SUBEB	State Universal Basic Education Board

1 Introduction

1.1 Background

Educating Nigerian Girls in New Enterprises (ENGINE) II program, which is in its second phase, is funded by the Department for International Development (DFID UK) through the Girls Education Challenge (GEC). This program is being implemented by Mercy Corps and is scheduled to run through 2020. In a bid to reach the Sustainable Development Goals (SDGs) by 2030, it is imperative that there is progress in girls' education. SDG 4 states explicitly, "ensure inclusive and equitable quality education and promote lifelong learning opportunity for all," and SDG 5 states, "achieve gender equality and empower all women and girls." To achieve these aims, DFID UK, through the GEC is helping the world's poorest girls improve their lives through education and supporting better ways of getting girls in school, and ensuring they receive quality education to transform their future.

The first phase of the ENGINE program, ENGINE I was implemented by Mercy Corps through Civil Society Organizations (CSOs) in Kano, Kaduna and Lagos States and the Federal Capital Territory (FCT). This program was targeted at 18,000 in and out of schoolgirls aged between 16 and 19 years. Results indicated that there were improved learning outcomes, increased girls' economic assets, and creation of enabling environments for beneficiaries to thrive, by influencing gatekeepers.

The second phase (ENGINE II) will be implemented by a consortium which includes Mercy Corps (the lead implementer), Civil Society Organizations (CSOs) at the respective states of intervention, Oxford Policy Management (external evaluator), as well as other public and private sector organisations. ENGINE II aims to transform the lives of over 21,000 marginalized in-school girls (ISGs) and out of schoolgirls (OSGs) who are aged between 17 and 23 years by fulfilling their potential in education and work.

Oxford Policy Management (OPM) is responsible for designing, implementing and analysing the ENGINE II midline survey in FCT, Kano, Kaduna and Lagos States.

1.1.1 Objectives of the ENGINE II project

The ENGINE II programme has three major outcomes which include:

- Improve learning outcomes (literacy, numeracy and life skills),
- Support girls to transition through key stages of education, training and employment,
- Ensure sustainability of changes that are in line with transition

It aims to ensure that girls transition successfully through the defined transition pathways, whether in school or out of school

1.1.2 ENGINE II Evaluation Questions

- Was the ENGINE II project successfully designed and implemented?
- What contextual factors impacted the implementation of the programme?
- What impact did the ENGINE II project have on the learning and transition of marginalised girls, including girls with disabilities?

- How and why was this impact achieved across project implementation locations?
- How did project outputs contribute to the impact (if any) achieved by the project?
- What worked (and did not work) to increase the learning and transition of marginalised girls that benefitted from the ENGINE II project?
- How did the educational technology used on ENGINE II influence participatory teaching, teaching competence and learning solutions in project states?
- What impact did the educational technology utilised on ENGINE II have on the quality of teaching especially regarding literacy and numeracy?
- How did this influence beneficiary attendance, use of learning and school grades?
- How sustainable were the activities funded by ENGINE II and was the project successful in leveraging additional interest and investment?
- What effect did ENGINE II have on the operations of school governance and management and how did this influence learning and attendance?
- What influence did ENGINE II have on communities and parents to facilitate support of girls' education and transition to the next stage of their education/business?
- How did this happen?
- How did ENGINE II influence the ecosystem in project states to improve the life of marginalised girls?
- Did the project demonstrate a good VfM approach?

1.2 Study Methodology

1.2.1 Midline data collection

The qualitative instruments administered at midline was focus group discussions and key informant interviews.

1.2.1.1 Qualitative instruments

Table 1 below summarises the key respondents for the qualitative data collection and purposes of each tool.

Table 1. Midline qualitative data collection tools, their purposes and respondents

Target group	Purpose/ Remarks
Interviews with Teachers/safe space coordinators	• To collect data in relation to sustainability of ENGINE II • To understand the progress of ENGINE II implementation at school (teacher training, since the baseline and its results, if any
SBMC	• To understand how school-based management committees or similar structures in the community are involved with facilitating a conducive environment for girls to thrive in education and/or business
	• To understand girls' experience in school

Target group	Purpose/ Remarks
ENGINE Girls	• To learn about girls' experience of transition; identify any issues girls have been facing since the baseline and assess whether or not these issues have been overcome with the help of the interventions • To explore any changes in girls' attitudes to schooling and be

Teachers/safe space coordinators selection

- Teachers that were trained on ENGINE II who teach English or Maths.
- Those who met the above criteria and are available for the interview.

Selection criteria for ISG and OSG

- Active ENGINE girls from SS1 to SS3 were randomly selected for the FGD.
- For OSG, active ENGINE girls from the community were selected randomly for participation.

Selection criteria for SBMC

- Those selected/invited for the SBMC FGD are;
- The Chairman, the secretary, Community leader, women representative and other members of the committee

2 Study Specific Findings

2.1 Transition

Nearly all the girls who were interviewed could positively affirm that they had made remarkable progress since they began attending ENGINE classes. In Kaduna, every girl in the FGD has moved from her previous class to the upper grade and desired to move from secondary to tertiary educational institutions to further their education. Also, their understanding of Maths and English has improved over the last year. The girls attributed most of these changes to the ENGINE classes.

In general, as reported by stakeholder groups interviewed across all states, the future for the girls engaged in the ENGINE program seems promising. For instance, an employer of one of the OSG ENGINE girls had this to say about her apprentice;

"I see Maryam owning her shop and running her own business without any supervision and possibly employing other ENGINE girls" **- Girl Employer, Odo-Obora, Lagos**

"My grades have improved because I have started to read more. I realised that I needed to read so that I can pass my exams and when I do not understand anything in class, I ask fellow classmates to explain it to me which has helped me to understand better." - ***ISG Respondent Jaba, Kaduna***

Apart from those learning within the four walls of the classroom, in Kano, some out of school girls were able to note their progress in skills development. When interviewed, one participant, who started catering barely a year ago stated,

"I have made progress significantly as I make profits greatly; I now cook and make snacks in large quantities for different occasions such as birthday parties and weddings from the skills I learnt from ENGINE ". – ***OSG Respondent, Ungongo, Kano***

Similarly, three other respondents in Kano who had commenced tailoring as businesses also said that they have made progress since practicing such skills.

In FCT, interview participants were ready to move to their next classes and had better understanding of the things they were taught in school as well as understood the teaching methods and techniques used by their teachers. They appreciated the efforts their teachers made in ensuring that they understood all their lessons. 4 Girls said they would want to proceed to the university, earn a degree and become doctors, while another set of 3 girls said they would love to earn masters and doctorate degrees, one of them said she would love to go to a university and became a lab scientist.

"In the past I did not understand because people are much in class but now that the class is shared into two classes and the class is more organized now and I want to

further my education". **-ISG Respondent, Dutse Alhaji, Abuja**

He also mentioned 3 girls that benefited from the payment of exams fees by ENGINE II programme and they were able to further their education to the next level because of the support they received from the ENGINE II programme. - ***Gatekeeper, Ungongo, Kano***

"Some of the girls that almost dropped out have decided to stay and some are more determined to finish school. We understand our lessons better and want to stay and move to the next grade". **-ISG Respondent, Jokwoyi, FCT**

In addition to educational transition, some of these girls have been seen to transition from being unskilled and unemployed to business owners, thereby becoming more independent of their parents, families, husbands and caregivers. They have been able to transform the life and business skills they have acquired, charting a meaningful and better rewarding course for their life. The girls have started various businesses such as,

- Selling of soft drinks and snacks
- Baking cakes for sale
- Retailing shoes
- Buying and selling of palm oil
- Hair stylist who owns and runs her bussiness at home

2.2 Facilitating Transition

Teachers/mentors

" there is a mentoring programme in which each student has a mentor teacher with whom they talk to on regular basis on issues such as career choices, health or personal challenges. There are also extra mural classes in Maths and English, life skills to teach about confidence which will incorporate boys as well and stipends will be paid in agreement with the LCF and also the establishment of Engine clubs. ***- SBMC, Jikwoyi, FCT***

- Supportive Community Members
- Girls aspiration

"she will want to finish her Masters before getting married because if she gets married before obtaining her master's degree she doesn't think that she will be able to still go back to school and complete the Masters". **- ISG, *Zaria, Kaduna*.**

"I would love to go to a university and became a lab scientist" .- **ISG, Ungongo, *Kano***

2.3 Barriers to transition

Poverty remains the major driver of marginalisation, especially for those who are extremely poor. The respondents listed some barriers that usually hinder girls from continuing with school and apprenticeship. General consensus on such barriers mentioned included:

- Early marriage and pregnancy
- Household chores, responsibilities and errands before school time.

  "Girls have to sell bean cake and pap before coming to school and also the nonchalant attitude of parents towards their children education." **-ISG Teacher, Kaduna**

- Unsafe travel to school are barriers for some of the girls
- Distance is a barrier in rural locations
- Insufficient school facilities and large class sizes

Limited infrastructure in classrooms- having to move out for the new class, class setting does not allow for easy student grouping

- *"it is difficult to group some girls because of the nature of the chairs in the class, the chairs are not plastic, it is not easy to rearrange the chairs to form a group and there are some lessons that teaching the girls only theory part will not make them understand, take for example computer lesson, it's a practical thing, theory alone will not drive it home"* - **ISG *T*eacher Kano state**

- Lack of funds to pay tuition for the girls by their parents.
- *Some parents cannot afford to send them to school, some students are the bread-winners in their family, some parents don't really care whether their children comes to school regularly or not* ***-ISG Respondent Ungogo, Kano***

  Loss of parents and care-giver which often leaves the girl with nobody to cater for her.

  -ISG Respondent Shomolu, Lagos

- Continuous poor performance in classes which often leads to demotivation

- Bullying from the teachers, some teachers are so mean and that is why some students don't feel comfortable around them
- Lack of teaching and learning materials, lack of uniforms

Furthermore, amongst the out of school girls interviewed, there were mixed reactions with regards to girls who were willing to return and continue their formal education. Some of the girls that were interviewed nursed the idea of going back to school. They generally wanted to learn more and prepare themselves for other job opportunities and to acquire more knowledge.

I want to go back to school to acquire more financial management skills which is very necessary for the vocational skills I am learning. ***-OSG Respondent,Lagos***

However, one of the respondents was comfortable with just continuing with her fashion designing class.

I have no interest to go back to school, I am very comfortable with my fashion designing vocation and would not like to break off from the business in order to continue schooling. ***- OSG Respondent, Lagos***

2.4 Learning outcome

Financial literacy

Findings across the states of interventions show that there is an improved awarness and knowledge in finance. Most of the girls now participate in group savings and know how to seek for small scale loans and grants. Also, respondents stated that they have applied the learnings on confidence and assertiveness in improving their negotiation and business management skills.

" This saving culture is entirely a new thing, in the past you hardly see a girl that wants to save and invest her money but because of the knowledge of life skills, Adashe/Savings and business skills being provided by ENGINE project, a lot of them has been transformed in to serious minded people" - ***GateKeeper , Dala, Kano***

"I used to sell my goods on credit before, since I stopped, I have witness growth in the business as a result." ***OSG respondent, Kano***

"To promote my business, I will make sticker that says, ENGINE2 Hadiza cakes, so that others can recognize it" ***OSG respondent, Kaduna***

Skills Development

Majority of the OSG respondents had learnt a new skill and were currently either apprentices or had started a new business from the skill acquired. When interviewed, one participant who started her catering business barely a year ago, stated

"I have made progress significantly as I make profits greatly; I now cook and makes snacks in large quantities for different occasions such as birthday parties, weddings from the skills I learnt from ENGINE ". ***– OSG Respondent, Ungongo, Kano***

The gatekeeper of Ungongo LGA confirmed that there has been significant improvement, especially among the girls that received the ENGINE II incentive/scholarship, who are working very hard to be self-reliant and independent by setting up small businesses to support themselves from the skills support they have been exposed too. He mentioned two girls in his community that received the COCA-COLA ENGINE II business support in the last two years and those girls are still in business and the business is thriving.

In the FCT, the employer of one of the girl's had this to say about the commitment of the girl's to learning:

The girl is a fast learner and comes early to work. Whenever she is given a task, she always gives her the best. ***-KII Girl Employer, Jikwoyi, FCT***

The impact of the girl's presence on the employer's business has been positive, she had this to say:

*She has good customer relations; she is polite to them and she sews well and she is able to attract new customers and as a result a lot of money is made. -****KII Girl Employer, Jikwoyi, FCT***

Increase in skill level, self confidence and commitments

Girls reported improvement in their public speaking capacities and problem solving skills which helps them to interact with people of different backgrounds, better. Many of the girls are becoming more independent of their parents and guardians and are taking up more responsibilities within the community.

"their mentality has changed from speaking about just marriages and clothes to having real impactful conversations"

– SBMC member, Kaduna

"I used to be the shy type and not bold enough to express myself but now I can voice out my opinions without being shy or scared"

- ***OSG Respondent, FCT, Abuja***

A father to one of the girls who was also a member of the SBMC said "the decision to buy a form and register for JAMB (Joint Admission and Matriculation Board) examination came solely from my daughter and the family had to support her to achieve it"

"I have learnt how to talk and attend to customers because of the confidence I gained from the learning space lessons".

– ***OSG Respondent, FCT, Abuja***

Literacy and Numeracy

Nearly all the girls who were interviewed positively affirmed that they had made remarkable progress since they began attending ENGINE classes. In Kano, most of the respondents explained that they initially struggled with reading and speaking at the inception of the programme and with basic Maths for their level but since joining the ENGINE group, and being exposed to the new approach to teaching that the teachers received, students are now more knowledgeable in literacy and numeracy and are more confident about their learning.

"Whatever we do not understand in Math and English during their normal school classes, it is explained better to them during their ENGINE class" - ***In School Girl teacher, Jaba Kaduna***

" Maths has Impacted me because before now, I did not understand Maths well like the LCM topic but now I know it very well". - ***In School Girl, Kano***

"I did not know how to read and write but because of the ENGINE classes I know how to read and write" - ***In School Girl, Ankung, Kaduna***

*" They teach us spelling bees like how to Spell our names" -****ISG Respondant, FCT , Abuja.***

2.5 Barriers to learning Outcome

Whilst the the girls have made considerable progress there are still pockets of issues which can impair learning progress such as:

- **Lack of resources** at home to help them learn faster. The girls learning fashion designing do not have sewing machines at home which affects their commitment to learning faster, as they are unable to take home practice tasks.

- **Distance, family obligations & spousal consent;** most girls have to wallk for about forty to fifty minutes to the schools or shop. Some OSG have children and have to take care of them before coming to work whilst others have to complete menial tasks at home and on the farm for caregivers and or their spouses before they are allowed to head to school or work.

*" As for farming there is nothing you can do than go to the farm, because every farming activity has a timeline and can not be postponed, but you can always catch up at school anytime" -**OSG , Jaba, Kaduna***

*''Some of my students are farmers and during farming season, they will not leave their work or sales of their produce to come to school" **OSG Teacher , FCT, Abuja***

- **Climate changes.** Since the girls walk to school or to work, rainy days affect their ability to get to work and or school on time. Also, flooding of some areas makes accessibility to schools and businesses, difficult in those areas.

*"there has been a general improvement of the girls attendance in the Skills acquisition Center with peculiar drops during rainy season where girls give flimsy reasons to dodge classes and festive seasons such as Ileya (Muslim festival) and Christmas period" - **Learning Centre Facilitator, Lagos***

*Also if it rains, they will not come to school because of rain damage on their produce" **OSG Teacher , FCT, Abuja***

- **Meeting time** is inconvenient for some of the girls as they find it difficult to stay back after school to attend those meetings

- **High rate of exams malpractice** among some girls**.** Thus, they are unwilling to participate in learning sessions because they know they can cheat on exams and the chances of getting away with cheating is high.

- **Inadequate trained teachers to support the ENGINE trained tutors.**

"ENGINE is an NGO, the government should not rely on them to train the teachers, the governments needs to train and retrain the teachers to make them effective, our teaching materials are the old fashioned teaching materials and there is a need for the modern ones" – Teacher

In Kaduna, a State government policy seemed to be one of the identified barriers observed:

*"one of the challenges to learning outcomes is that there is no repeating a class as a Government policy in Kaduna State. No matter how poor a child performs, as a teacher you cannot repeat that child. When the children graduate with a poor result the teachers are always fingered as not able to inculcate or teach the child to pass his/her exams. Some of the students get married and leave school after a year they will return back to join her mates in a new class and because of the educational gap that has occurred, there is no how she can cope as the curriculum is not structured for breaks" **- Learning Centre Facilitator, Kaduna***

3 Intermediate Outcome

3.1 Attendance

Mixed reactions trailed the frequency and regularity of girls' attendance to school and the learning centres. While some respondents were of the opinion that attendance had improved,

> *I have observed my daughter's attendance and many other girls, they attend the learning centres regularly and more girls are enrolling and dedicated to participating in the program*.
>
> -**Imam, Lagos**

> *Maryam, my apprentice, is very committed and passionate about her apprenticeship. She never misses attendance to her shop unless circumstances forced her to do so. Because I know she attends classes courtesy of the ENGINE programme, I always grant her permission when she needs to attend classes so that she does not miss.* -**ENGINE OSG Employer, Lagos**

*"The girls come to the learning center regularly because since I am their teacher and I know most of them and know their houses. Infact, I relate with their parents and because of that, it will be difficult for any girl to abstain from the leaning center. Also the incentives received by the girls , knowledge of the life skills and the financial lessons they are receiving these alone is another reason why they come to the learning centre regularly"- **Learning Center Facilitator, Kano***

others, felt attendance though improved, was still lagging. For instance, in Abuja, one of the AMAC teachers expressed his views on the lag in attendance,

> "*the pattern observed was that in the mornings, there were less girls in school because majority of them were maids and house helps and had house chores to do and also had to drop off the children of their bosses at school, some were said to hawk in the mornings to make ends meets, thus for the few that attended school in the mornings they were late. In the afternoon the attendance improved because the girls knew and appreciated the importance of education"*. - **Teacher AMAC, FCT**

In Kano, the learning center facilitators had a different view on attendance by the girls.

"I have 75% to 80% attendance from the OSG, 20% percent stopped attending because they had expectation from ENGINE 1 which was not met. They had high expectation for vocational training and funds to start business because at ENGINE 1 they were taught financial skills, life skills and saving for future use and they thought that at the end of the program they will be given funds to start businesses". **ENGINE II Learning Centre Facilitator*, Ungogo, Kano.***

3.2 Barriers to Attendance

The girls expressed that they loved to be in school, however factors such as sickness, travel, bereavement or circumstances beyond their control, lack of school fees, lack of teaching and learning materials, school necessities like lack of uniforms, pre- occupation with domestic activities or mandated activities like hawking, farming, fishing amongst others could keep them school.

Other socio-cultural and economic issues which they perceived prevented girls from attending school, or from staying in school includes:

- Lack of funds to pay tuition for the girls by the parents.
- Desire to get rich quick.

  Desire for fast life and flashy things which often leads the girl to abandon school for prostitution in order to afford those things. ***-ISG Respondent Ungogo, Kano***

- Continuous poor performance in classes which often leads to demotivation
- Loss of parents and care-giver which often leaves the girl with nobody to cater for her.

Another list of barriers that prevent girls from coming, staying, completing school and pursuing further studies include a list shared by a Social Welfare Officer:

- **Gender discrimination.** Parents usually view sending girl-child to school as a waste of resources and would rather spend such sums of money on their male children. This attitude emanates from the fact that they believe that the girl would eventually be given out in marriage and so those resources 'wasted' on their education are regarded as worthless in the sense that the family does not get any direct benefit from her education.
- **Early marriages,** as girls are usually given out at an early age by their parents, while some of the girls due to peer pressure drop out of school to get married.
- **Inability to compete.** The girls often find competition with boys very intense and exhaustive and would most often rather prefer to go learn a trade or get married in order to wriggle out of this situation. This always lower the number of girls available to complete their studies.
- **Climate conditions.** Attendance in the rainy season is poor due to the subsistence farming culture practiced by most rural dwellers.

Attendance by the girls always drops during the rainy seasons, the weather gives the girls flimsy reasons to dodge the programme. During the festive seasons like Ileya (Muslim festive season) and Christmas the attendance is also lean. -**ENGINE II Learning Centre Facilitator, Lagos**

3.3 School governance and management

3.3.1 Conducive Learning Environment

In Kaduna, the respondent described the learning environment as very conducive for learning.

"It is quiet, no much noise and they have enough chairs to go round and the classes is not congested. The environment is quiet and it is not close to residential houses and there are enough classes and chairs. The ENGINE classes are not congested and the students are few in number and the teacher knows the student even by name and that makes learning, teaching and communication easy. The only challenge that we have is over population in the regular school but not in the ENGINE classes"

Engine School Principal, Kaduna

Also, the management carries the teachers along in terms of decision making and seeking their opinions for feedbacks and creating welfare packages. The management also has welfare packages and humanitarian responsibilities towards a student who cannot pay her fees and each teacher contributes 500 naira (approximately $1.40) towards this collection.

The head teacher inspects and monitors that teachers are prompt for classes and stay for the length of the classes. The head teacher has a register for the teachers for close supervision.

The only challenge that they have is over population in the regular school but not in the ENGINE classes.

In Lagos, the learning centre facilitator explained that the ENGINE program made use of one the primary schools in the locality for lessons. In her opinion, the learning center was moderately conducive for the girls because;

- The area around the school is very secured with a security personnel attached to the gated entrance to the school.
- The area is very open and in full view of the public such that people can see what goes on within the compound.
- There are enough seats to sit the girls comfortably without overcrowding the class
- There are chalk boards in each class.
- The classrooms are well ventilated with good lighting conditions.

However, she had some issues with the venue; the toilets in the school are not opened for the girls to use during their lessons. This is because the primary school is already closed for the day before the ENGINE lessons commence, thus forcing the girls to use the nearby bushes for convenience.

Also, the CDAs (Community Development Associations) are usually involved in the running of the centre by sensitizing the girls on the importance of the ENGINE programme and meeting with the teachers to better understand what happens at the centre. The CDAs are also involved in the selection of the beneficiaries for the ENGINE program and usually help the girls' maintain regular attendance at the centre by following up on each of them. They are also in charge of sanitation.

In Abuja, one teacher's views of the academic environment was full of praises. She mentioned that:

"the management does everything to make them comfortable, like grading the road to the school for easy accessibility, and clearing a dumpsite opposite the school. The management appraises the teachers and reward them appropriately which makes them strive to be better teachers. But the school does not have enough teaching resources which affects the assimilation rate of leaners."

In Kano , one of the teachers had a few more comments to make asides the conduciveness of the environment. She noted that, *"the learning centre is conducive although the class needed few repairs like the ceiling and the floor but generally as far as I am concerned the learning centre is conducive".*

3.4 Quality of teaching

One of the learning centre facilitators in Lagos spoke highly of the benefits of the ENGINE programme to her as a teacher. She had this to say:

> *The ENGINE II programme has given me back my zeal, I had less confidence in my ability to teach, but now I can say that I exude enough confidence to teach and talk to people generally. This was not the case before my engagement as an ENGINE teacher. I have developed this new confidence in the course of interacting with the girls as their facilitator.*

The respondent explained that she had learnt some very useful techniques from the ENGINE programme, these techniques enabled her to deliver a learner-centred approach, these were:

- Peer-to-peer mentoring: This method allowed the girls to get more involved in the teaching and hence further their interest in the lessons.
- Role play: Here the students are each called upon to participate either as groups or individuals during lessons while others watch. This makes it easier to involve all the class and helps the students to recollect what was taught.
- Discussion method: the lesson takes a discursive pattern where every one of the learners is expected to contribute to the discussion and opinions of each and everyone one of them is taken into consideration.
- Use of textbooks and instructional materials: This method, helps the learners to remember what was taught very easily as they can link it to the aid used during the lesson. The teaching aids are mostly provided by Mercy Corp and USAID.

The only challenges faced in teaching in Lagos is as regards the commitment of the girls to the programme and this had been resolved by the programme by the selective empowerment of the girls, this actually made the empowered girls see it as a privilege. She was also of the opinion that the selective empowerment on the other hand led to a loss of interest in the girls that have been left out by the programme, thus leading to a decrease in attendance by others whose friends had been left out.

In Abuja, some of the perceptions the girls had on the teaching quality varied but most of them agreed that there were:

- limited learning materials and inadequate equipment for practical sessions, thus they had little knowledge on the practical aspects of their lessons.
- Limited learning resources. Writing lesson notes without materials and resources is difficult.
- However ,there was possible feedbacks on the new teaching methods like the The Group teaching technique which helped them to group students based on their strength and weaknesses. This gave the weak ones the opportunity and confidence to ask their fellow students questions and be taught by them and gave the academically strong ones the opportunity to teach the weak ones at their pace.

In Kaduna, most girls engaged in the FDG had positive reviews about the teaching quality however a few girls had negative feedbacks to give regarding their teachers.

On teaching quality, one of the ENGINE girls said

"the teaching quality is good because the teachers make sure that we understand the topic before moving to another one and if any one of the students in the class did not understand

the topic, the teacher will repeat it and make sure the student understands before moving to the next topic and if they give class work and majority of the class fails, they repeat the topic again before moving on to the next one"

ISG, GSS Ankung, Jaba, Kaduna

However , the perception of Teachers was quite different from the girls.

One of the teachers expressed his concerns about the peculiar challenges faced whilst teaching the girls. The challenges he faced as a teacher are:

- Inability to carry along those students that are late comers and or those who do not come to school regularly but come to school for test and exams.
- Remuneration is very meager and thus discourages him to teach.

In Kano, one of the teachers commended the new teachings were that were learnt under the Engine Platform.

" that the bloom taxonomy which she uses to assess the students during lessons has really helped her to know that she can evaluate the students at the beginning of the lesson, during the lesson and at the end of the lesson. Also, she added the lesson plan uses the semantics method that has learner's activities, teacher's activities and learning points. She also learnt about the use of teaching aids in the classroom like cardboard paper, flashcards and the use of materials found in the environment such as stones, sticks or rubber band, charts to teach literacy and numeracy. All trainings attended was organized by ENGINE II'.

Out of School Teacher, Ungogo, Kano

3.5 Community-based attitudes and behaviour change

Findings from all the states show that the girls' ability to communicate, negotiate, overall confidence and ability to be assertive had greatly improved. All respondents attributed these changes to the skills they had learnt during the ENGINE programme. The girls have further demonstrated willingness to contribute to discussions in community and religious gatherings. They are more vocal and contribute during important discussions. Girls are currently seen making decisions to go further in their education.

> *Maryam has become quite confident as she usually can chat and discuss quite comfortably with customers and other apprentices in her working place*.
>
> -**ENGINE girl employer, Odo Obora, Lagos**

Over time, some of the changes noted in the girls' behaviour are:

- Being more understanding when dealing with people especially those that have different ideas with them
- Being more friendly as against always frowning and being short tempered.

- Understanding the dangers of low self-esteem and how to cultivate high self-esteem.
- Being more confident and able to speak to large crows without being nervous.

The gate keepers were of the opinion that girls were gradually willing to contribute to discussions in community gatherings, churches in the community, including focusing on things they could not do before.

> *'Girls in my community are trying to overtake the boys, they speak out and relate with the chief and his executives more than the boys. The boys are more interested in negative vices like alcohol and cultism and the girls have picked up the challenge to go to school, speak up and contribute to the society. Even in the church, during traditional sittings they speak out more things these days. if the boys do not take their time, they will be following the girls at the back. They have started speaking up well and I encourage them to voice out'*
>
> -**Gate Keeper AMAC, FCT**

> *'Many of the girls who had dropped out of school at one point in time have made decisions to return back to school. These girls are married with children but that did not stop them from going back to school. He also said most of the girls also on their own decided to start businesses and acquire skills'. -* **Gate Keeper AMAC, FCT**

'There is serious competition amongst the girls when it comes to education, going to higher institutions and how to be independent. They decide on their own with little or no encouragement from their parents, the saving habits of the girls have improved. I have also seen girls that benefitted from ENGINE programme putting into practice what they have learnt in their homes and teaching their children too' -**Gatekeeper Bwari, Abuja**

The community leader in Zaria also observed that the girls are able to engage in profitable ventures to help themselves without any help compared to the past when the girls were majorly idle.

He further confirmed that *"Increase in education and literacy level has helped the girls in his community to be able to discuss freely with their husbands and in the gatherings/meetings. When they converge for a meeting with the traditional leader, they are able to discuss freely and also share their fears and challenges freely. The girls are also eager and willing to contribute freely to the community in ways within their means and they are able to persuade and communicate with confidence to their husbands on the importance of allowing them to attend classes".* **Community leader, Kaduna.**

A comunity leader from Kano noted that,

"The saving culture is entirely a new thing for the girls. In the past you hardly see a girl that wanted to save and invest her money but because of the knowledge of life skills, Adashe/Savings and business skills being provided by ENGINE project, a lot of them has been transformed in to serious minded people not spending money any how. The girls are in to one or two businesses within the community and even terms of the way they relate, there is a lot of changes now they speak boldly and interact and all these achievements can be attributed to the presence of ENGINE in his community and the state. On Weekends you hardly see students who want to go to school but because of ENGINE, you will these girls in school or at the learning centres trying to learn one or two things on trade, Savings, maths and English".

Gate Keeper, Dala, Kano

3.6 Economic empowerment

A few of the girls engaged in the ENGINE programme had been financially empowered to start up their businesses. They also indicated that they were part of the girls' Fora and Access Mobile Banking Agent programmes that took place in their community:

> *I have witnessed a girl being financially empowered to start up a business – sales of coca cola products. This is very unique and successful and I will like it to continue.*
>
> -**CDA member, Lagos**

> *The Girls' Fora taught us financial management - how to open accounts and save money. We also learnt current trending issues in our community through this forum. Things that engender common interest are always discussed at the Girls' Fora. The Access Mobile Banking Agent program provided an opportunity for the participants to be involved in the Mobile Banking business which provided a small income for the girls*. -**Female OSG respondent, Lagos**

The girls interviewed had started businesses where they provided make up service, hair dressing and cloth designing and sewing. They admitted that their businesses had improved in the last year as a result of the skills that they had gained from the learning spaces. Based on their knowledge, they felt that the main way to expand their business will be advertising using the social media. A few others said that they save up from the profit they made to expand their businesses, they failed to share the strategies they would use to save enough to expand their business. None of them mentioned the option of taking a loan.

For those in the FCT, the training they received has enabled them to set up business like fashion designing, selling locally made drinks like kunu, zobo, gari, firewood, provisions and catering. Also, while some took the initiative to attend computer training, some have established hair styling businesses. They intend to save and take loans to expand their businesses.

When asked on what identifiable contributions they as leaders had made to business opportunities for girls and what exposures these girls gain from such support/ programs, the gate keepers from AMAC and Bwari admitted that though they had not done much, they had provided cash for business start-up for a few girls and linked some of them to philanthropists, ministries and NGOs (E.g. Ministry of agriculture provided gas cylinders for some girls that are learning catering, while a philanthropist provided sewing materials for some learning tailoring) to provide opportunities, equipment, trainings and funds to help the girls in their community. They also financially support the girls by giving them start up capital to rent shops and also giving the farmers amongst them farming implements (like the pest sprayers).

3.7 School-related gender-based violence

3.7.1 Gender Issues and child protection policies

In all states, except Kaduna, the girls interviewed had an understanding of the concept of abuse, the types of abuse, how to identify victims of abuse and where abuse could be reported. Various forms of abuse mentioned included sexual harassment, bullying, suppression of truth, rape, beating, maltreatment and stated that anybody could suffer from a form of abuse irrespective of sex or age.

In Kaduna, they clearly demonstrated lack of adequate knowledge on how women can be abused.

Some girls when asked about what abuse means, gave examples according to their level of understanding rather than a definition. An example given was drug abuse when students take cigarettes and other contraband items and get high.

Child abuse, drug abuse, forced marriage, refusal to enroll the girl in school, and girls committing abortions were mentioned as the types of abuse by other participants from this state. One participant mentioned that parents could be abused but could not explain how.

The platforms identified for reporting and addressing abuse within their community are:

- Landlords and Tenants Association within the community who takes these cases and try to settle it.
- The CDAs (Community Development Associations)
- The Police
- The LNSC (Lagos State Neighbourhood Security Corp
- Traditional Community Leaders

- Human Rights organization, NGOs and ENGINE
- Religious leaders
- School authourities

The girls differed on the issue of female assigned house chores, while some were of the opinion that these house chores like sweeping, cooking washing dishes and clothes should be left for the female alone, others felt the chores should be shared between both girls and boys. Practically they all agreed that most times, these chores were often left for girls alone, and because of that they general expectation is for girls to grow up perfecting the skills on house chores.

The respondents were asked to identify barriers known to be faced by marginalized boys and girls and why they think that actions should be taken to help them. They had knowledge of the barriers, especially girls. These included:

- Harassment from boys in the neighbourhood which could come in form sex advances or taunts during hawking
- Lack of care from spouses in the case of married women, especially the under-aged.
- Unwanted pregnancies for the marginalized girl which prevent enrolment in the school.

Specific activities that the Lagos state government have adopted which has helped to promote girl-child enrolment, attendance and transition through key education and economic opportunities by the Social Welfare Officer interviewed include:

- The use of mass literacy sensitization to encourage parents to see the need to send their wards, especially the girls, to school. This is done through an arm of the Ministry of Education which visits the communities, printing messages on bill boards and the use of radios to inform parents on the above-mentioned need.
- The initiation of free basic education to mitigate the problem of lack of funds. This is to make sure every child has access to proper basic education, even up to secondary school level.
- The provision of free bus rides for school children to reduce cost of transport which is one of the major reasons why attendance is usually poor as found out from consultations with the parents.

- Establishment of some skill acquisition centres in selected areas to cater to the needs of marginalized people who may not be opportune to acquire formal education for those who have dropped out due to lack of funds and other reasons. This is generally free and in partnership with donor agencies who run the centres.

The social welfare officer added that the child protection agency and the human rights groups have helped out in addressing issues of rape and child abuse. He added that these agencies were accessible and also had phone lines and have recorded huge successes in the past in terms of the prosecution and conviction of rape and sex offenders.

In response to the question on practical steps taken to address gender discrimination issues in schools. The Social Welfare Officer had this to say:

> *The government is the only institution that can handle this by providing a level play field for both genders in the school. For example, in the case of selecting prefects in the school the rule is to make sure that leadership positions like prefects are selected in such a way that the girls are always considered to give a sense of belonging to the girls and to teach them that they can also be as valuable as the boys.*

In the FCT, the NYSC ENGINE II programme focal person highlighted some steps than have be taken to address gender discrimination in Schools:

- ENGINE models (corp members) educate the cohort girls about gender discrimination and encourage them to speak up when they are abused.
- Gender and Gender Discrimination forms part of the topics the girls are taught in their centres. Additionally, during seminars and presentations, girls are given these topics; gender violence, sexual abuse, early marriage, access to education etc to study and make presentations using power point or drama, as part of examination for the scholarship.

The rights on the other hand that every marginalised child especially girls listed by the respondents include:

- Right to work and
- Right to financial assistance

3.7.2 Development of child protection policy

In Kaduna, the vulnerable adult protection policy had not been finalized as they were working on the reporting format. However, in doing so, the NYSC ENGINE II focal person noted that, they realized that the likely places a child will report an abuse is to talk to a friend or talk to a

Guidance and Counselling teacher, or the classroom teacher or even talk to the principal about the abuse who will report to the police, therefore they have included within the policy, the 4 sexual assault centers in the states where abused girls can go to and take refuge, or they can go to the nearest hospital where evidence can be taken, whether physically or sexually abused. Police and Civil Defense are trained to handle abuse issues but the Ministry of Women Affairs prefer to work with the Civil Defense because they have received training on abuse before now and they have desk officers, tasked with swift response to handle all reported abuse.

In Lagos, though, the CDA team were not aware of the key challenges faced by marginalised girls and boys. They admitted also that there were no current socio-cultural norms and traditions that favoured boys over girls. Thus, girls had as much opportunities as the boys. They were not aware of any policy document such as the Child and Vulnerable Adult Protection, Gender issues document or code of conduct. The Social welfare officer interviewed had little knowledge of the ENGINE II Child and Vulnerable Adults protection documents though some of his colleagues had attended some ENGINE programmes in the past. He only knew it is a document that seems to protect children and adults in vulnerable positions due to life situations.

In the FCT, the Education officer disclosed that the Education department was still working on adopting the harmonised ENGINE II Child and Vulnerable Adult protection document. The respondent explained that there are committees for handling abuse in schools and offices. Where these committees cannot resolve issues of abuse, they are escalated to the authorities of the school for further investigation and actions. Usually, perpetrators of abuse are found and punished. The programme has contributed to addressing child protection issues by training of learning centre facilitators and master trainers which will help both in the protection of children and Vulnerable Adults as well as ensuring prompt and effective reporting of cases if or when they occur.

In Kano, all the SBMC members in Dala interviewed said they are not aware of any policy document for child and adult protection. None of the 3 schools has any policy document what they have is the general rules and regulations of the school which is common and popular in all the secondary schools in Kano. The rules and regulations which include punctuality of teachers and students and general management of the schools.

Similarly, all the respondents present said they didn't have any policy documents for the vulnerable. Only one respondent said

"they have 'a school charter' and it was developed by government in collaboration with ESSPIN (Education Sector Support Programme in Nigeria) is a non- governmental organization that was once in the state and for about six years and provided support on education, teacher training and learning materials. That charter is the guiding principle for the school but as SBMC and the community they did not have any policy document".

SBMC Member, Dala, Kano

He added that the school charter is all about rules and regulations concerning the right of students, for example right to quality education, right to be treated fairly, provision of conducive atmosphere of learning and school charter is being provided by the government and the SBMC didn't have any of such policy document.

Only one respondent had an idea on Engine II child and vulnerable Adult Protection policy and he said it is all about protecting the child's secrecy and protecting the child from harm and threat. He also added that all of them were made to sign the policy in one of their training and overall the policy is about protection of child from harm and protection of secret.

The respondent said the only channel available is for the corp members to report any incidence of child molestation to the principal or head master then to the gate keeper (community leader) then to NYSC and then at office level. Communications with the Engine II project officials and then the Engine II officials will escalate it to the Security Agencies and other channels for action and justice.

3.8 Life skills

The girls' have shown more interest and commitment to the ENGINE program. Many of them have benefited from the skills taught. The girls have become determined to be better.

> *The most observable change is the near disappearance of hawking girls on the streets of the neighbourhood which I confidently attribute to the presence of ENGINE programme and its efforts in redirecting the girls' focus to education and vocational training*.
>
> -**Imam Odo-Obara,Lagos**

> *Her commitment to work is unquestionable as she is very friendly with customers and her jovial nature could easily win over any customer notwithstanding how hard to convince the customer might be. Maryam is also very popular among her customer purely because of the above disposition she usually displayed when engaging with them*.
>
> -**ENGINE girl employer Odo-Obora, Lagos**

"Two girls in my community that received the COCA-COLA ENGINE II business support in the last two years and those girls are still doing that business and the business is expanding and doing well and also that 3 girls that benefited from the payment of exams fees by ENGINE II programme were also able to further their education to the next level because of the support they received from the ENGINE II programme.

Gate Keeper, Ungongo, Kano.

In response to their knowledge of the difference between assertiveness and aggression, the girls were able to describe assertiveness as a way of resolving disagreements politely. The admitted that the being assertive helped to resole disagreements without hard feelings. The Girls interviewed showed a high level of assertiveness but lacked the required diplomacy in managing tense situations and disagreements, most of them resorted to the aggressive approach in resolving very tense issues and situations.

The communication skills the girls had displayed in the last months had improved, they have been able to contribute more towards decision making processes at home and in public places especially as it affects them. Seven of the eight girls interviewed attested to the improvement of their interactions over time from very aggressive and confrontational to much more assertive and polite forms. Generally, the respondents also showed their ability to negotiate better based on experiences they shared.

> *People understand me more because I am more assertive and communicate better with people especially in English, and this is because of the literacy classes in attend that have been organised by ENGINE II.* **-Female OSG respondent, Lagos.**
>
> *I have seen a girl whose business management has changed positively. He said before now she sells her goods on credit and is usually scared to follow up on her debtors but with the help of the Engine programme, she is able to manage, control and understand her customers. She is more prudent with her finances to the extent that she can pay her school fees through her business*
>
> -**Gate keeper in AMAC, FCT**

Finally, many girls have re-enrolled and started school regardless of their marital status and number of children they have. They have been taught life skills – most of the girls involved have had their self-esteem built, they are able to relate better with people and make better decisions as it affects their lives and future. They are also more assertive and able to stand up for themselves and are better leaders especially in church where they occupy strategic positions.

3.8.1 Menstrual Health and Hygiene

The participants all faced problems when they first started menstruation. Some of the problems they had were the misconception peddled by their mothers and the inadequate and poor knowledge they had about mensuration. However, two of the respondents who were young girls has basic knowledge about mensuration. What the new included:

- Monthly flow of blood from the vagina.

- It signals the onset of maturity for women.
- A girl may get pregnant from this time onward.
- Menstrual cycle occurs monthly, around every 28 days.
- Flow lasts from 4-5 days.
- Ovulation is different for different women.
- Bathe always, use sanitary pads and change it according to heaviness of flow.
- Hygiene is very important during this time.

The first person they shared with their period details with were their sisters and mothers. One of the girls said that she shared the details with her friend. They felt that it was because they were the closest to them and that they had knowledge on the issues and they were educated too. They all agreed that the best place to learn about menstruation was either at home or school. The reason for school is that the school continually educates the girls even when they are yet to start thereby equipping them beforehand. Those who subscribe to homes say that mothers are more patient and understanding, however, they regret that mothers most time impart this knowledge very late, alleging that some mothers can only tell their girls after it starts, which they found most frustrating.

In the past, they had myths and misconceptions about mensuration. They used to believe that one can get pregnant just by going close to a man once menstruation commences but now know it takes sexual intercourse for one to get pregnant. In the past they also had challenges with knowing how to predict and understand their circle, their hygienic practices. But based on the knowledge they had acquired they were more knowledgeable and able to tackle the challenges with menstruation.

3.9 Program exposure

The impact of the ENGINE program cannot be over emphasized, not only have the girls who are directly involved benefitted from it, their families and the entire community has benefited. In support of this assertion, the respondents' comments include:

> *ENGINE's greatest impact has been its ability to train the girls in Literacy and numeracy while also imparting and incorporating vocational skills as part of the programme. This has helped the girls to further improve their economic situations and opportunities at little or no cost.* -
> **Imam Odo-Obara, Lagos**

The most impactful aspect of the ENGINE programme was the vocational training skills that the programme imparted on the girls; I am a direct beneficiary of such an arrangement. I believe that most of the girls have benefitted a lot from this training and will want it to continue. -**ENGINE girl employer Odo-Obora, Lagos**

The empowerment program is the most impactful of all the program. This is because I have seen girls during their graduation from vocational training receiving equipment like coolers, sewing machines in order to start their own businesses.

-**CDA Member, Lagos**

Bridging of the gender gap by giving the girl-child access to education. Female education is very important and ENGINE has made it realizable by initiating this programme. -**Social Welfare Officer, Lagos**

In the informal education sector, the programme has particularly impacted in the areas of training, where some staff have been trained as learning centre facilitators and master trainers. In the areas of literacy, life skills and scholarship for vulnerable adults and youths especially women, the programme has registered them for final school examination among other things. These activities have helped in reducing the rate of illiteracy in the FCT. The programme has made positive impact in addressing many barriers because they are in touch with the grassroot. Through advocacy and sensitization, the programme has clearly understood the challenges facing the girl child and tailored the programme to tackle them.

ENGINE II FCT Education Officer

For the OSG female FGD, the respondent's responses to the most impactful aspect of the ENGINE II program included:

- Literacy/Numeracy lessons which helped drop-outs to learn basic English language and calculation skills.
- Life Skills which helps the girls to their rights and boost their confidence in public.
- Personal hygiene that allows them to understand and learn ways to take care of themselves and others.
- Financial education which encourages business management skills and saving.
- Vocational training which teaches the girls skills to enhance their economic opportunity.

The learning centre facilitator felt that the least impactful part of the program is the Literacy and Numeracy classes. She felt the girls did not always show much enthusiasm for the lessons taught. This could be explained by the fact that most of the girls already are beyond the level of the topics being taught and as such find the lessons boring

The female respondents at the OSG FDG group feel that the ENGINE II program is near perfect, but like other respondents, they had suggestions for things about the program that should be revised. Their suggestions include:

- Girls should be empowered only when they have undergone all the necessary vocational/skill training to ensure they understand what they are trained for before assisting them with funds or equipment.
- There is need for proper mentorship during training of the girls as it will help the girls to learn and understand each and different aspects of the trade that they are learning by tapping from first-hand experience.
- There should be thorough assessment of the girls' apprenticeship before they are allowed to leave their learning spaces. This is to make sure they are near perfect in the skills they were meant to understudy and will be able to carry on their own after leaving the training.
- The age range should include women above 25.
- Men and people living with health challenges should also be included as part of the programme.
- Provide opportunity for marginalized boys to also be part of the program.
- Girls should be motivated by providing monetary stipends to increase attendance.
- The girls should be grouped based on their educational levels and needs and lessons should be delivered as such instead lumping all of them in one class.
- ENGINE should always find out from the girls what they actually need and provide such empowerments based on these needs to adequately motivate and build interest in the girls.
- Seminars and talks should be regularly organized for the girls using role models in the society to serve as source of inspiration to the girls. The respondent believes this will further increase the girls' motivation and desire to make something out of their lives.

- Engaging and working closely with government and developing a very strong long-term partnership with government at the local level to improve its delivery and allow it to run even after the programme has ended.

4 Sustainability

Feedback from SBMC, PTA and system level respondents across the states portrays the respondents acknowledgement of how much impact the ENGINE programme has been in the lives of the girls. Respondents were also fully aware that, as it is with programmes of this nature, the ENGINE programme has a finite lifespan. Discussions on various modalities to expand on ENGINE's impact highlighted the following, which can be duplicated in various degrees and contextualized to each state.

4.1 Collaboration with Engine II Girl Employers

Across the states, the ENGINE programme had successfully transitioned a group of the out of school girls from apprentices to owning their own businesses. The discussions with the system level respondents highlighted the need to take on these set of girls to act as mentors to other marginalized girls in the economy. Having new girls work as apprentices with them can ensure continuity beyond the life of the programme and once the new set of girls graduate to owning their own business, using funds saved and getting support from the CDA, they can in turn train new set of girls, continuing the cycle.

4.2 Community Participation

Currently, the Lagos state CDA team with support from the ENGINE programme has helped to support marginalised groups in the community including children and pregnant teenage girls. For instance, in cases of child/teenage pregnancies, they investigate and track down the person responsible, hand him over to the Human Rights group for appropriate prosecution for statutory rape and possible conviction if found guilty, they support the girl through pregnancy till she gives birth and help her return to her studies if she was already in school.

To ensure programme sustainability, the CDA team with support from the community had made plans to sustain the numeracy and literacy learning program beyond the ENGINE II programme. They have also started setting out modalities to support the continuation of activities currently conducted at the learning centre, after the ENGINE programme ends.

Other suggestions include;

- Prioritizing ENGINE II girls to be beneficiaries of government-sponsored empowerment programs.
- Sensitization and awareness creation to promote girl education.

The only barrier envisaged was financing which could be solved by using the revenue generated from taxes like collections from street gate.

This model can be duplicated across each state of intervention.

4.3 Role of SBMC

In Kaduna state, the PTA has plans to continue the economic empowerment to the girls. They have bought an incubator for chicks but they have not started operating it. They want to also continue inculcating the method of saving so that the students can start any business from funds saved whilst the PTA can provide additional cash support to such students. They also have five hectares of land cultivated by the students, with produce sold and profits retained to support economic empowerment interventions of the students.

"The community has also embarked on the extra lesson and all community heads were invited when it was lunched with Government approval and we also have a Rabbit farm".

PTA Chairman (GSS DAKACE)

SBMC members in Kano have pledged to continue payment for five respondents that were part of the ENGINE commitment. The Principal stated that the SBMC plans to support activities such as

"payment of exams fees for some less-privilege girls (Jamb/Waec/Neco), provision of sanitary pads, financial assistance to some other selected girls, and continued support for extra lessons for in school girls which is said to be the most impactful activity in the ENGINE II program".

-Principal SMBC , Kano.

The major obstacle noted in Kano was funding but the SBMC resolved to continue to source for funds from the government, wealthy individuals and charitable donations in the communities and amongst themselves to keep providing for the girls and the school. Some of the sponsored respondents also said lack of interest from the girls and the lack of co-operation from parents can also be a challenge but they resolved to continue to educate the girls and their parents on the importance of Girl Child education.

5 Conclusion and Recommendation

In conclusion, the ENGINE II midline survey unearthed findings that may prove useful in the implementation of the ENGINE programme, as well as assist in refining the programme's future action. The sections below sum up the core findings and our recommendations for improving programme activities and achieving intended results.

5.1 Conclusions

The ENGINE II programme has undoubtedly had a positive impact on the lives of all beneficiaries and this is explained under the sub-headings below;

Changes in the profile of the project's beneficiaries and their barriers to learning and transition since baseline.

- At midline, the aim of the ENGINE II programme is to achieve improved learning, transition and sustainability outcomes for the target beneficiaries i.e. marginalised girls (in school and out of school) aged 18 – 24 years old and in grade SS1-SS3. This is different from the profile of beneficiaries at baseline as the target was marginalised girls (in school and out of school) aged 17-23 years old and in grade JSS3-SS1.
- At midline, a total of 82 treatment and control schools as well as their adjoining communities were surveyed. Upon arrival at each school, 13 beneficiaries were randomly sampled from the identified ENGINE girls in the treatment while at the control sites, equal number of girls with matching characteristics with those from the treatment schools were also randomly selected. This is slightly different from what was done at baseline where 92 schools and its' contiguous communities were randomly selected from the list of treatment schools and communities received from the implementing partners across the states, with each school representing the primary cluster. This difference in the sample size/profile at baseline and midline evaluation points can be attributable to the replacement protocol which was deployed to replace lost girls from the sample brought about by attrition and also a boost, to cover for future attrition.
- It is worthy to note that the intervention schools that were randomly selected at baseline with their matching control schools were mostly retained during the midline survey. However, in some cases, due to programmatic changes informed by the transition of target girls out of implementation areas, some new schools were purposefully selected and matched accordingly to make up the revised sampled schools that were surveyed during midline evaluation study. This was significant in FCT state than in the other states with more than half of the baseline evaluation schools off the programme.
- At midline, with more trained teachers in schools, girls continue to feel more welcomed in class and teachers are rarely absent from scheduled lessons when compared to baseline results. While some of the barriers to learning remained predominant even at midline, we had identified a few other barriers to learning. They include; meeting time, inadequate trained teachers to support the ENGINE trained tutors, high rate of exam malpractice and a State government policy on education in Kaduna that mandates students to be promoted to the next grade irrespective of their academic performance. Despite the fact that the girls are willing to/have moved from her previous class to the upper grade, desire to move from secondary to tertiary educational institutions to further their education and or continue with business, notable barriers to transition at

midline that were identified are and are not limited to: continuous poor performance in classes which often leads to demotivation, continuous bullying from the teachers and the desire to continue business rather than resume school.

Midline learning levels of the project's beneficiaries

- **By state**- findings across the states of interventions show that there is a display of increased commitment to learn and or work, awareness & knowledge in finance and improved confidence. It is worthy to note that in Kano, there is display of increased knowledge of life skills as nearly all the girls have imbibed the savings culture and are now mindful of their expenditure. In addition, there were mixed positions as regards to returning and continuing formal education in Lagos as some of the girls reported that they would rather continue with business.
- **By age-** Distribution by age **among in-school girls at midline** shows a young population with more than 90% of the girls observed to be less than 20 years old. The distribution among the out-of-school girl's population is somewhat different. Girls aged 20 years old appear to have a more consistent distribution across baseline and midline samples. The age distribution validates the qualitative findings that irrespective of the age groups, there is a display of increased commitment to learn and or work, awareness & knowledge in finance and improved confidence. The age distribution also validates the quantitative findings that revealed that a higher percentage of the younger girls (18-20 years) in school and out of school had improved upon their life skills, numeracy and literacy outcomes.
- **By grade-** The distribution of girls by grade at midline is different from baseline among in-school girls in the intervention and control groups. Unlike baseline that adopted random selection for all eligible girls, at midline, girls in SSS 1 and SSS 2 were prioritized for selection in schools, hence a purposive random approach was adopted here to achieve the midline cross-sectional sample. The out -school girls also received business trainings and were encouraged to join cooperative groups courtesy of the ENGINE programme. Noteworthy also is the fact that some in-school girls are involved in business activities and the ripple effect of teachings and opportunities available to out-of-school girls are shared by girls in school resulting in a higher than increase in learning outcomes at midline compared to baseline.
- **By disability-** disability was assigned to anyone with a ranking of 'has a lot of difficulty' or 'cannot do at all' in at least one of the six domains of functioning which includes – vision, hearing, mobility, cognitive, self-care and communication impairments. In the ISG intervention group, the proportion of girls with disability reduced from 5% at baseline to 2% at midline and in the control group, from 9% at baseline to 3% at midline. The proportion of girls that reported having any disability in the OSG intervention group was lower than the ISG intervention group, at 3% in the treatment population, and 4% in the control population. The distribution of girls by disability criteria supports the qualitative findings at midline as there was a reduction of girls with disability compared to baseline.

Midline transition rates of the project's beneficiaries

One of the key focus areas of the ENGINE II is to support beneficiaries prepare for and successfully transition to the next phase of education, work and personal empowerment. Once

implemented, ENGINE II programme provided scholarships to facilitate girls transition into higher learning, supported the expansion of business ventures and provided linkages to loans to support beneficiaries' business growth and diversification. The programme also mobilised public and private actors to advocate for specific and well-defined change to mitigate social and cultural barriers for marginalised girls at community and household levels.

Transition outcomes

- **By state-** findings across the states indicate that nearly all the girls who were interviewed positively affirmed that they had made remarkable progress since they began attending ENGINE classes. To support these findings, a higher percentage of the girls reported that they were ready to move/have moved to their next classes, or move from secondary schools to tertiary institutions and or have already transitioned from being unskilled to business owners. The girls that reported a better understanding of maths and English had attributed it to the ENGINE programme.

- **By age-** findings across the age category reveal that a high percentage of the in-school girls and out-school girls within ages 18-20 years had transitioned to their next classes and or moved from being unskilled and unemployed to business owners, thereby becoming more independent of their parents, families, husbands and caregivers. The same results apply across the different grades represented.

Factors that can hinder/support the sustainability of the projects activities and results

The qualitative findings indicate that support at the community through CDA, school through SBMC, and system levels of activities is needed to drive the ENGINE programme and take its beneficial effect beyond its lifecycle of 3 years. Nearly all the respondents reported that through advocacy and sensitization, the programme has clearly understood the challenges facing the girl child and tailored the programme to tackle them. With respect to the **improved learning outcomes**, **transition outcomes** and **sustainability** observed at midline, it will be worthwhile to continue to garner the support of the following stakeholders within the following capacities:

- **Community level-** the qualitative findings across the states reveal that the CDA team expressed interest to support and sustain the numeracy and literacy learning program beyond the ENGINE II programme through an array of activities that consider student attendance in school and learning centers, welfare especially with respect to children and pregnant teenage girls, conducive learning environment, availability of resources etc. This is particularly profound in Lagos as the CDA team with support from the ENGINE programme has helped to support marginalised groups in the community including children and pregnant teenage girls. They had identified funding as a major issue but resorted to solve this by using the revenue generated from taxes like collections from street gate

- **School level**- findings across the states reveal that the schools and the SBMCs/PTA also expressed interest to sustain progress seen in girls through collaborative efforts that ensure improvement in outcomes of ENGINE 2 programme especially at midline when compared to baseline results and where funding was considered a major obstacle (FCT, Kano and Lagos), they had resolved to source for funds from donors, charitable organisations etc. It is worthy

to note that PTA in Kaduna plays an active role and collaborates with SBMC and Community leaders to continue the economic and social empowerment of marginalised girls. Evidence gathered through the qualitative interview across the states is indicative of this assumption that the critical mass of school staff and stakeholders are convinced of the benefits and have shown capacity to address challenges that may hinder the project objective independently.

- **System level**- System level progress towards substantial gain of the project training, advocacy and integration into the existence government structure has improved since baseline. There is an increase level of awareness of child and vulnerable adult protection and referral with some extents of local adoption by project state and government organ like the National Youth Service Corps. Findings from the qualitative study shows that some government officers have taken key lesson learns for training on Child protection and explore how existing government organs can be of use to ensure child protection within the project states. ENGINE has a group of stakeholders called the state advisory group (SAG) to serve as the channel through which the child protection issues can be addressed at all levels. The SAG members paid an advocacy visit to Commissioner of Justice in Kano State to discuss on the child protection rights and were told that the bill as at the time of visit was in the state assembly for passing.

Social inclusion

Findings across the states show that a good number of the respondents are now well aware about the rights of a girl as well as policy documents to protect vulnerable children and adults. A good number of them also noted that the ENGINE girls for example are more likely to speak up about abuse than girls who have not been exposed to the program. It is worthy to note that in Kaduna, the NYSC Focal Person stated that even though the policy has not been finalized as they are still working on the reporting format; they intend to use the document to also protect the male child as well even though the ENGINE program is about female child.

With respect to special needs, the ENGINE programme has also trained teachers in schools and facilitators at the learning centres on learner-centred teaching practices and methods, gender sensitivity and child protection. Despite the fact that the girls with disability reduced at midline, a few of the teachers reported to have received training on how to practice inclusive teaching so that learners with special needs are not lagging behind in their academic studies. The fact that a good percentage of respondents in Lagos stated that they were not aware of any policy document such as the child and Vulnerable Adult Protection, Gender issues document or code of conduct might be an indication that the project may need to evolve its approach to social inclusion in this state.

5.2 Recommendations

Some of the recommendations collected from the respondents across the states surveyed during the qualitative survey are as below:

- ENGINE organizers can consider meeting face to face with the parents/guardians of the girls to debrief the programme and its benefits to the girls because most times the

learning space activities hold after school and a good number of households don't allow their wards to stay back after school; and in cases where they do, they get into trouble. Instilling a value reorientation in the parents is important for them to understand that education is equally important for both the girls and boys and that the girl-child could greatly be empowered if given the chance to get a good education like the boys do. They suggested that this orientation can be packaged into a sensitization programme to educate the parents on the need to understand this importance in educating the girl-child.

- It was suggested that the time for the vocational skills/classes can be changed to Holiday periods and not during the regular school days. A justification for this is that there should be time for rest days for the girls as some of them were married and needed family time and would need co-operation from their husbands.
- Parents should also be involved to ensure sustainability of the outcomes of the ENGINE programme by monitoring the activities of their children in school and rewarding them when they are doing well and also punish them whenever they misbehave
- ENGINE should consider onboarding marginalized boys and men on to the programme so that the boys will also benefit just as the girls are.
- Due to the lack of financial resources, stipends can be provided to the girls to facilitate their transportation to school and or to the learning centres so as not to miss the learning space activities and in the same vein; timely payment of stipends to facilitators should also be considered.
- The girls should be grouped based on their educational levels and needs and lessons should be delivered as such instead lumping all of them in one class.
- The ENGINE program can include outdoor activities like social events and broaden its coverage within the states
- The ENGINE program can consider erecting a permanent structure for ENGINE supported activities and learning centre and providing more learning resources and refreshment for the girls to encourage them to attend all learning sessions and in similar fashion, for the guests during meetings and trainings.
- To create opportunities for girls that have benefited from the ENGINE programme to teach the same skills to other girls in non-ENGINE supported communities. The beneficiaries should also be provided with start-up capital to enable them setup their businesses after training in vocation and entrepreneurship.

- Teachers should be monitored because the some of the girls (in FCT) had reported that teachers often favour certain girls over others. In line with monitoring, it was also suggested that the programme should reconsider picking girls from Junior Secondary School because the girls may not go to an ENGINE II supported Senior Secondary School therefore there will be no continuity of the programme for them; senior secondary girls should be highly considered.

- ENGINE should consider improving the time management and information flow from ENGINE organizers to partners, facilitators and all involved in the programme needs to improve.

- NYSC ENGINE II focal person in FCT had suggested that the programme should consider expanding the age range for beneficiaries to capture 9-year-old girls as some girls start menstruation that early and need to be taught menstrual Hygiene. Girls in that age bracket also face discrimination and abuse and other challenges the ENGINE programme is seeking to address.

- ENGINE should identify less privileged girls and support them by providing school materials like text books to ensure that they are no left out. They also suggest that male teachers be involved in the programme, where they too can receive training as facilitators like their female counterparts. They reported the need for government to support the children especially the orphans, the less privilege and every child in need.

- There should be thorough assessment of the girls' apprenticeship before they are allowed to leave their learning spaces. This is to make sure they are near perfect in the skills they were meant to understudy and will be able to carry on their own after leaving the training.

- ENGINE should always find out from the girls what they actually need and provide such empowerments based on these needs to adequately motivate and build interest in the girls. Bright and exceptional students should also be provided scholarships.

- Seminars and talks should be regularly organized for the girls using role models in the society to serve as source of inspiration to the girls. The respondent believes this will further increase the girls' motivation and desire to make something out of their lives. Engaging and working closely with government and developing a very strong long-term partnership with government at the local level will improve delivery and allow ENGINE to run even after its lifecycle. Government in partnership with donor agencies can make available funds which can be accessed by children, especially girls who are

denied education in one form or the other in order to enable them acquire education which was initially denied them for either economic reasons or otherwise.

- There is need for proper mentorship during training of the girls as it will help the girls to learn and understand each and different aspects of the trade that they are learning by tapping from first-hand experience.
- ENGINE can consider including subjects other than English and Maths
- The MAFUTA should be for the ISG's too and not only for the OSG's in Kaduna.

External Evaluator Declaration

01 November 2019

Name of Programme: Educating Nigerian Girls In New Enterprises (ENGINE) II

Name of External Evaluator: Oxford Policy Management

Contact Information for External Evaluator: Femi.Adegoke@opml.co.uk

Names of all members of the evaluation team: *See under list.*

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I, Olufemi Adegoke certify that the independent evaluation has been conducted in line with the Terms of Reference and other requirements received.

Specifically:

- All of the quantitative data was collected independently (Initials: F.A.)
- All data analysis was conducted independently and provides a fair and consistent representation of progress (Initials: F.A.)
- Data quality assurance and verification mechanisms agreed in the terms of reference with the programme have been soundly followed (Initials: F.A.)
- The recipient has not fundamentally altered or misrepresented the nature of the analysis originally provided by Oxford Policy Management (Company) (Initials: F.A.)
- All child protection protocols and guidance have been followed ((initials: F.A.)
- Data has been anonymised, treated confidentially and stored safely, in line with the GEC data protection and ethics protocols (Initials: F.A.)

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