DNA Economics

Universal ECD in Malawi: A cost-benefit approach

A report prepared for the

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Making economic sense of common problems

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Authors

Sajid Sherif and Fouche Venter

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DNA Economics

Ground floor, Block B, 469 Julius Jeppe Street
Waterkloof, Pretoria, 0181, South Africa
PO Box 95838, Waterkloof, 0145, South Africa

Tel +27 (0)12 362 0024 | **Fax** +27 (0)12 362 0210
Email contact@dnaeconomics.com | www.dnaeconomics.com

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Abbreviations / Glossary

CBCC	Community Based Care Centre
DDS	Dietary Diversity Score
DSWO	District Social Welfare Offices
ECD	Early Childhood Development
GoM	Government of Malawi
GER	Gross Enrolment Rate
IEY	Investing in Early Years
MDAT	Malawi Developmental Assessment Tool
M & E	Monitoring and Evaluation
MGDS	Malawi Growth and Development Strategy
MoEST	Ministry of Education Science and Technology
MoGCDSW	Ministry of Gender, Children, Disability and Social Welfare
NEEP	Nutrition Embedded Evaluation Programme
NER	Net Enrolment Rate
NESIP	National Education Sector Investment Plan
NGO	Non-governmental Organisations
ORT	Other Recurrent Transaction
PECD	Protecting Early Childhood and Development
RFF	Roger Federer Foundation
SRI	School Readiness Initiative

Executive Summary

This study aims to assess the costs and benefits of a comprehensive Early Childhood Development (ECD) programme for children in Malawi. Four research questions are identified to achieve this objective:

1. What is the current state of community-based care centres (CBCCs) in Malawi?
2. What interventions are required at CBCCs?
3. How much does it cost to provide these interventions?
4. What are the potential benefits associated with these interventions?

The executive summary is structured to provide the key takeaways from each of these research questions.

What is the current state of CBCCs in Malawi?

A literature review and the analysis of primary data informed the first research question. While the Government of Malawi (GoM) adopted a broad evidence-based policy framework for ECD, ECD receives only a small share of the education and overall national budgets. Limited funding towards ECD has resulted in substantial coverage gaps and inadequate and low-quality services.

Nevertheless, there have been substantial gains in terms of coverage over the past decade. However, quality issues persist. The following points summarise the main issues regarding the state of CBCCs:

- **Low funding towards ECD.** Despite significant increases to the ECD budget in recent years, the GoM's contribution remains very low. In FY 2017, less than 1% of the education budget went towards ECD, reflecting the funding situation in the absence of considerable donor support.
- **Low ECD coverage of 3 – 5-year-olds.** It is estimated that only 50% of 3 – 5-year-olds access ECD services. This is equivalent to approximately 850,00 3 – 5-year-old children not having access to ECD.
- **Inadequate or low-quality CBCC infrastructure.** CBCC structures often fail to ensure that the physical environment is safe and conducive to children's development. For example, CBCCs often lack sufficient classrooms for children, do not have separate classes for children of different age groups, and lack other facilities such as caregiver offices and kitchens. In addition, children's play areas are sometimes close to hazards such as open cooking areas.

- **Untrained caregivers.** Approximately 52% of all ECD caregivers are untrained.

- **Unpaid caregivers.** Most caregivers do not receive monetary compensation, making it difficult to attract and retain qualified caregivers. One study reports that 76% of caregivers receive no pay at all, and among those who are compensated, they receive between 3 to 14 USD a month. Primary data collected in this study indicates 77% of caregivers do not receive any incentives, and among those that are incentivised, they rarely receive monetary compensation.

- **Supposedly high caregiver to child ratios.** The most recent official estimate suggests this ratio could be around 69.5, although this conflicts with the data collected in this research.

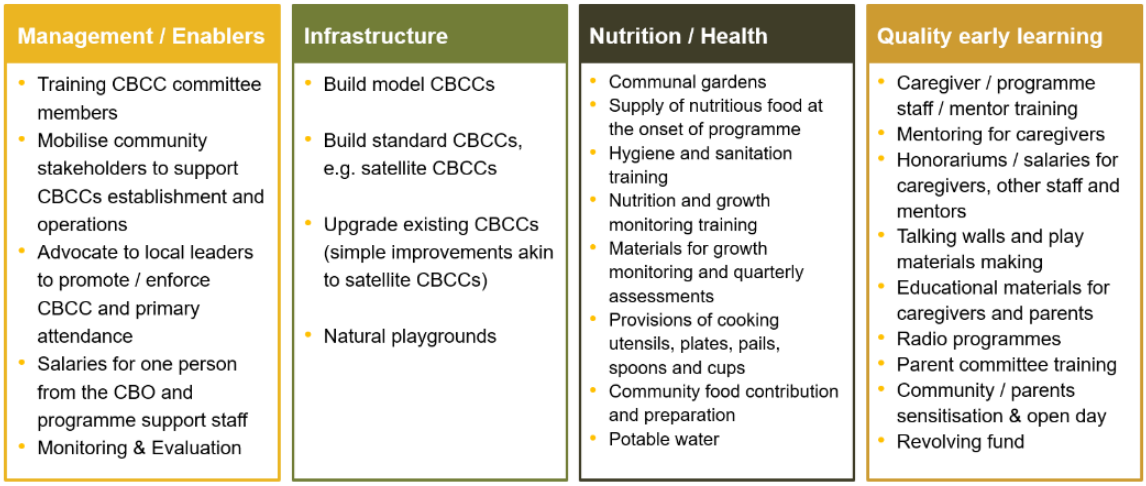
- **Lack of play and learning materials.** CBCCs are poorly equipped with these tools of the trade. Hence, children are not stimulated adequately, and their development is impeded.

- **Inadequate water and sanitation.** Few CBCCs' toilets are permanent structures, most being inappropriate for children. Many struggle to access safe water, and piped water at the CBCC is uncommon.

What interventions are required at CBCCs?

In response to the above challenges, it is important to identify how they can be resolved. Fortunately, there have been several ECD programmes aimed at the CBCC-level in recent years. These programmes and their evaluations were studied to understand what constitutes an effective programme. Figure 1 summarises the interventions needed to address the problems faced by the sector.

Figure 1: List of interventions



The interventions in Figure 1 are then costed. However, there are scaling and programme assumptions that fit into the costing. Table 1 shows how the programme is scaled; the Net Enrolment Rate (NER) is increased over the ten years, and the Gross Enrolment Rate (GER) is decreased until they both equal 85%. This would mean that, by the end of the period, all children in rural areas access ECD via CBCCs and that only children aged 3 – 5-years-old will be in CBCCs.

Table 1: Programme scaling

ECD coverage		
Year	NER	GER
1	50%	100%
2	50%	100%
3	55%	100%
4	55%	95%
5	60%	95%
6	65%	95%
7	70%	90%
8	75%	90%
9	80%	90%
10	85%	85%

A 10-year scaling period was chosen to match the GoM's existing plans outlined in the National Education Sector Investment Plans (NESIP). While the costing tool can accommodate various scenarios, such as a shorter or longer period of implementation, this report is limited to only a few scenarios to keep the findings succinct.

There are two main scenarios:

1. Recommended scenario: all 3 – 5-years-old children[1]
2. SDG 4.2 scenario: only 5-year-old children (pre-primary class)[2]

Full coverage of the relevant age group is the goal in both scenarios, but the second scenario allows for a cheaper total programme cost. This approach is due to the importance of having a dedicated pre-primary class that can adequately prepare children to thrive in primary school.

Table 2 lists the main programme assumptions. The GoM plans to provide honorariums for caregivers and employ mentors as full-time salaried employees. The executive summary presents the costs for scenarios 1 and 2, providing salaries for mentors. Only pre-primary caregivers receive mentorship.

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[1] The Ministry of Gender, Children and Social Welfare's Early Childhood Development Standard Operational Procedures and Guidelines indicates that children aged 3 – 5 years old should attend centre-based ECD.
[2] This scenario is in line with SDG 4.2, which states that children aged 3 – 5 years old should receive at least one year of quality pre-primary education.

Table 2: Main assumptions

Aspect	Assumption	Note
# 3-4 y.o per caregiver	25	
# 5 y.o per caregiver	30	
# caregivers per satellite CBCC	4	
# caregivers per model CBCC	8	
Caregiver honorarium	MK 15 000	per month
Mentor salary	MK 100 000	per month
Mentor honorarium	MK 20 000	per month (alternate scenario)
Number of existing CBCCs	8 198	
% of excisting CBCCs needing upgrades	61%	Upgraded as satellites
New CBCCs built as satellite CBCCs (%)	50%	100% under SDG 4.2 scenario
New CBCCs built as model CBCCs (%)	50%	0% under SDG 4.2 scenario
# CBCCs per mentor	5	
Parent / community contribution per CBCC	MK 34 706	Per year
M&E as % of total programme costs	10%	
Inflation	0%	Costs in real terms

How much does it cost to provide these interventions?

Figure 2 present the costs for scenario 1 (Recommended scenario). The total cost with salaries over the ten years is MK 406 billion (USD 487 million) in real terms. This is equivalent to an average increase of the annual ECD budget by 112%. However, it is important to note that the majority (85%) of the current ECD budget is going to the World Bank funded Investing in Early Years (IEY) programme. As such, the GoM's annual contribution to ECD would have to increase by 4,416% if it were to fund the total cost shown in Figure 2. This massive increase is not a result of the programme's costs but rather reflects underinvestment in ECD. The programme would be fully funded if 10.5% of the education budget or 1.9% of the total budget was allocated to ECD annually.

The highest costs accrue to the 'quality early learning' programme element, followed by the 'nutrition/health' programme element. This is mostly due to the cost of honorariums and salaries to caregivers and mentors, respectively. The 'quality early learning' programme element costs more than the 'nutrition/health' programme element because more caregiver time is spent on the former. Further, mentor costs only accrue to the 'quality early learning' programme element.

Figure 2: Recommended scenario - Coverage of all 3 – 5-years-old children

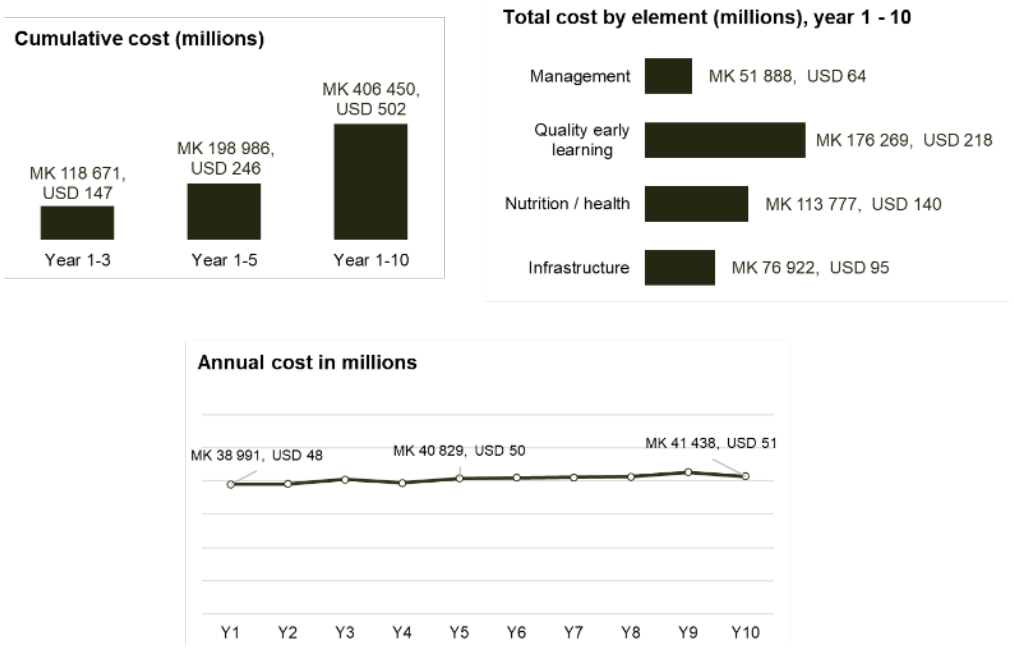
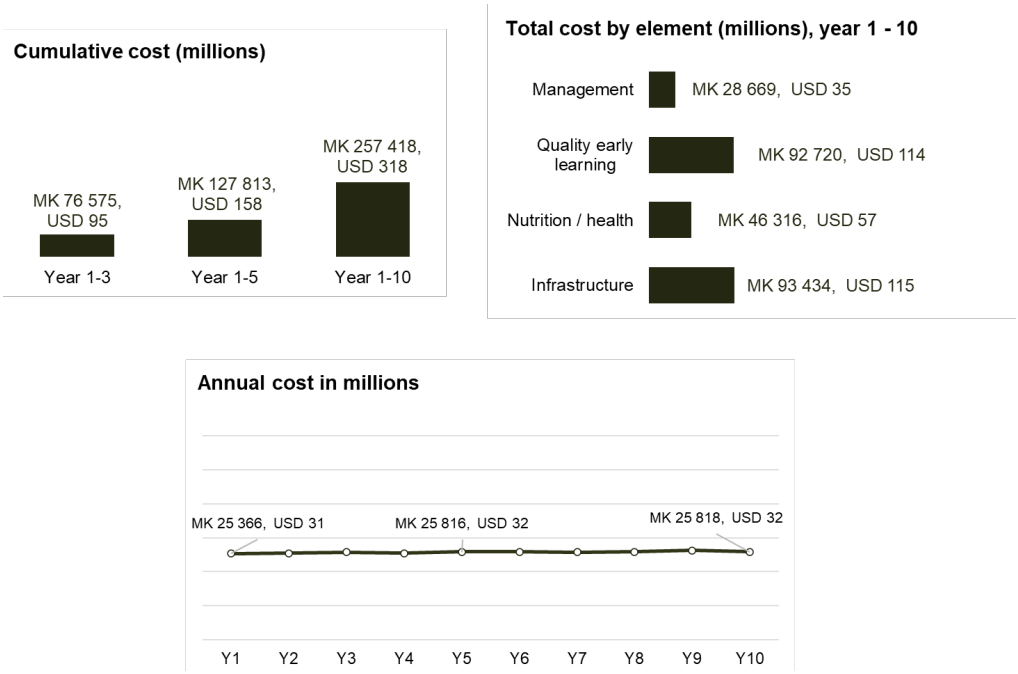


Figure 3 presents the related costs for scenario 2 (SDG 4.2 scenario). Targeting only 5-year-old children has the benefit of reducing programme costs substantially. The programme would cost MK 257 billion (USD 317 million[3]) in real terms[4] over the ten years. The costs in Figure 3 could be fully covered if 6.7% of the education budget or 1.2% of the total budget was allocated to ECD annually.

Figure 3: SDG 4.2 scenario - Coverage of only 5-year-old children



[3] *1 USD = 810 MK*
[4] *2021 prices*

While the overall cost structure remains the same as scenario 1 (Recommended scenario), it must be noted that implementing the programme for 5-year-old children only means that certain inefficiencies enter the system. Specifically, it is not practical to build CBCCs for 5-year-old children only. As such, the infrastructure costs presented in this scenario is sufficient to house all 3 – 5-year-old children in Malawi, albeit all in a satellite format. The upshot of this approach is that it lays the foundation for future coverage of 3 – 4-year-old children.

What are the potential benefits associated with these interventions?

Lastly, the benefits associated with these costs are estimated. For brevity, the executive summary only presents the benefits for scenario 1. However, all population percentages are relevant for both 3 – 5-year-olds and 5-year-olds only because the number of three, four and five-year-old children in Malawi is practically the same.

Figure 4 presents the benefits of improved nutrition from the programme. A dietary diversity score (DDS) of 4 or higher indicates that a child eats a diet containing at least four food groups. This is considered the minimum score for an adequately diverse diet. After achieving full coverage at year 10, the programme would increase the percentage of children with an adequate dietary diversity score by 17 percentage points, from 25% to 42%, after accounting for population growth.

Figure 4: Recommended scenario – Dietary Diversity Score benefits

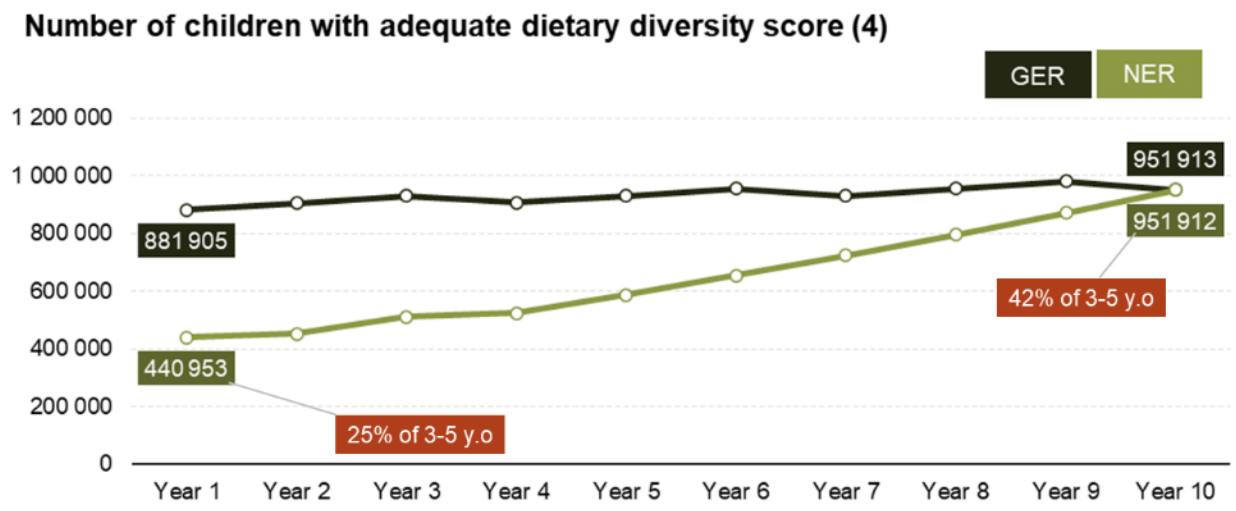
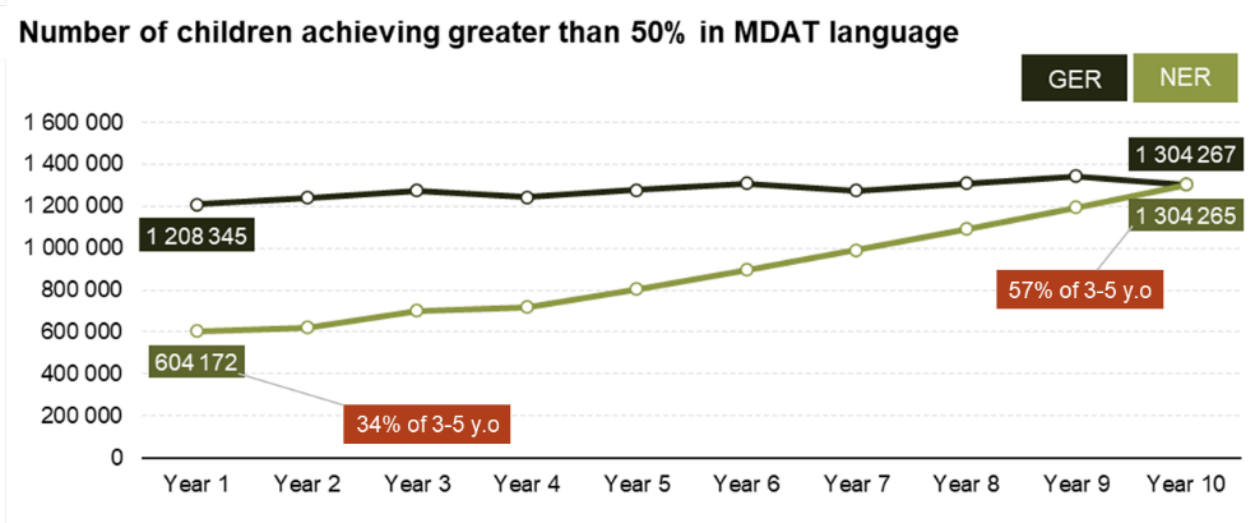


Figure 5 analyses the programme's impact on Malawi Development Assessment Tool (MDAT) languages performance for scenario 1. The figure shows the number of children who achieve at least 50% on the MDAT language assessment. Currently, it is estimated that only 34% of children achieve at least 50% on the MDAT language

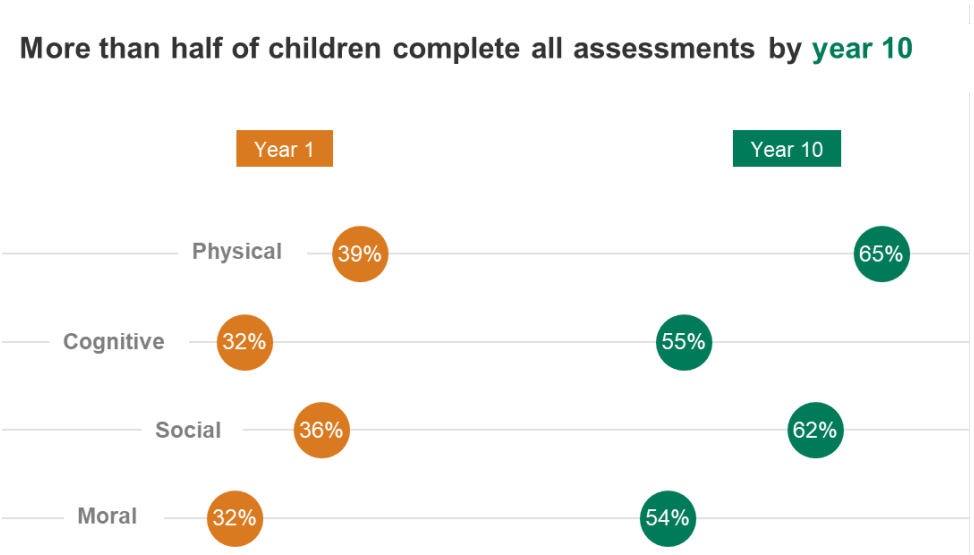
assessment. After attaining full coverage in year 10, this is estimated to increase to 57% of the 3 – 5-year-old population.

Figure 5: Recommended scenario – Malawi Development Assessment Tool language score benefits



The final set of short-term benefits are presented in Figure 6. The outcome of the physical, cognitive, social and moral assessments provides a holistic picture of a child's development before entering primary school.5 For brevity, only the population percentages are presented. As can be observed from the figure, there are notable increases in the child population that can complete each developmental assessment. These percentages apply to both scenarios 1 and 2, i.e. the percentages are the same for both the 3 – 5-year-old population and the 5-year-old population alone.

Figure 6: Percentage able to complete Child Steps developmental assessments (applicable to scenarios 1 and 2)



[5] *The Roger Federer Foundation developed this assessment tool, called Child Steps, which is used for ongoing assessment of children. For more inforormation, see: https://rogerfedererfoundation.org/publications/early-learning-kiosk*

The programme is also associated with benefits that extend to primary school. Figure 7 models the number of children passing each grade the first time, expressed as a percentage of the original cohort who entered primary school. The status quo is dire; only 13% of children entering primary school pass in the minimum time. Implementing the programme has the potential to more than double this percentage to 28%. The programme, enabling fewer failures in primary school and more children passing primary school in the minimum time, will bring about significant savings in the education sector. In addition, there will also be fewer learner per teachers due to a lower repetition rate.

Figure 7: Reduced failure rate (applicable to scenarios 1 and 2)

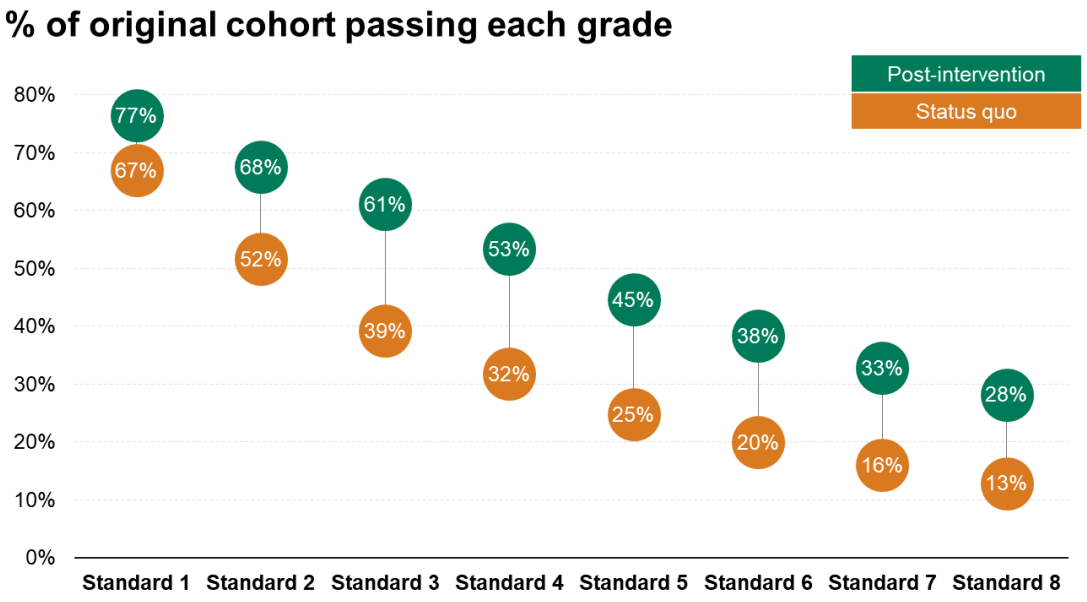


Figure 8 summarises the costs and benefits.

Figure 8: Summary of costs and benefits

Costs		Benefits
MK 406 billion (USD 501 million), total cost over ten years for 3 – 5-year-olds. Annual cost of approximately MK 40 billion. Requires average increase of annual ECD budget by 112% **MK 257 billion (USD 317 million)**, total cost over ten years for 5-year-olds only Annual cost of approximately MK 25 billion. Requires average increase of annual ECD budget by 34% ****Current ECD budget is 85% donor funded and is much higher than usual. Cost estimates are in real terms (2021 prices).*		**Percentage of population** (either 3 – 5-years-old or 5-years-old only): • Adequate diet: 25% to 42% • 50% on MDAT language: 34% to 57% • Physical assessment: 39% to 65% • Cognitive assessment: 32% to 55% • Social assessment: 36% to 62% • Moral assessment: 32% to 64% Percentage of a cohort completing primary school in the minimum time: 13% to 28%

1. Introduction

Early Childhood Development (ECD) services expanded substantially in Malawi over the past decade. While ECD is provided in various formats, the largest and most salient component of this expansion was the proliferation of community-based care centres (CBCCs). This expansion contrasts with underinvestment in ECD on the part of the Government of Malawi (GoM).[6] As such, the establishment and operations of CBCCs have been championed and financed mostly by communities.

Despite communities' resource constraints impeding quality, CBCCs emerged as an ideal platform for ECD services. CBCCs are a relatively low-cost initiative provided at the community level, which benefits from the community's support. Consequently, the GoM and development partners have worked to enhance the CBCC landscape. More recently, the desire to expand CBCC coverage is reflected in the GoM's strategic plans. Nevertheless, ECD funding remains inadequate.

The current study was commissioned to address underinvestment in the sector by informing an investment case for ECD in Malawi. Specifically, this study aims to **estimate the costs and benefits of a high-quality, comprehensive ECD programme for all Malawian children**. To this end, four research questions emerge:

1. What is the current state of CBCCs in Malawi?
2. What interventions are required at CBCCs?
3. How much does it cost to provide these interventions?
4. What are the potential benefits associated with these interventions?

Addressing these research questions informs the investment case so that the GoM can use these findings in their decision-making process. The structure of the report is as follows:

Section 2 presents the analytical framework for this research. This section consists of a detailed methodology statement, describes the data used and considers the limitations of this research.

Section 3 is a situational analysis, which briefly analyses the overall education sector in Malawi, provides a detailed analysis of the ECD sector and presents findings from primary data collected. This section answers the first research question (*1. What is the current state of CBCCs in Malawi?*).

[6] *(Roger Federer Foundation, 2020)*

Based on the findings from Section 3, **Section 4** addresses the second research question (*2. What interventions are required at CBCCs?*). It lists the interventions required, programme assumptions and scenarios analysed.

Section 5 then presents the cost of providing these interventions to all eligible children, thereby addressing the third research question (*3.How much does it cost to provide these interventions?*).

The final research question (*4. What are the potential benefits associated with these interventions?*) is addressed in **Section 6**, which estimates the benefits associated with the costed interventions.

Lastly, **Section 7** summarises the report's findings and concludes.

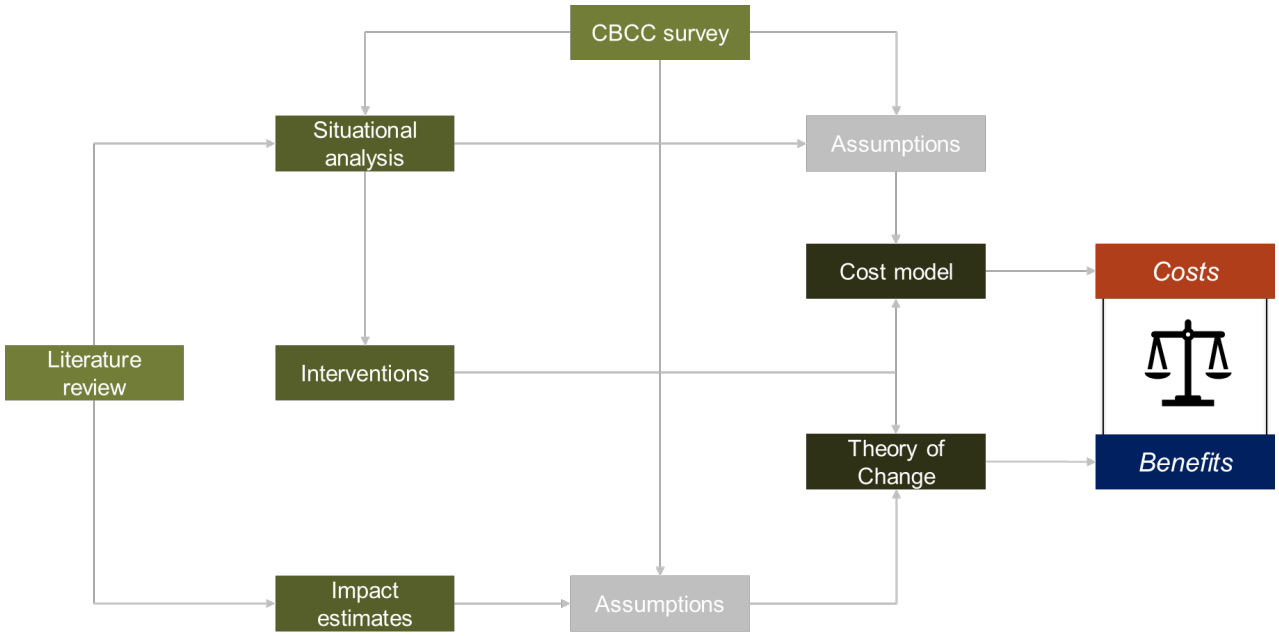
2. Analytical framework

This section describes the methods and data used in this study and defines the scope of work.

2.1 Methods

Figure 9 illustrates the overall research process, showing a high-level picture of how each component contributes to estimating the costs and benefits. The rest of this sub-section describes the research methods and how they contribute to the study's objectives.

Figure 9: Illustration of the research methods



2.1.1 Literature review

A literature review was conducted to inform the **situational analysis**. It involved analysing reports on the education sector more broadly and on ECD specifically. Analysing this literature revealed important features of the ECD sector in Malawi that must be accounted for when implementing ECD interventions. The review also revealed the types of **interventions required**.

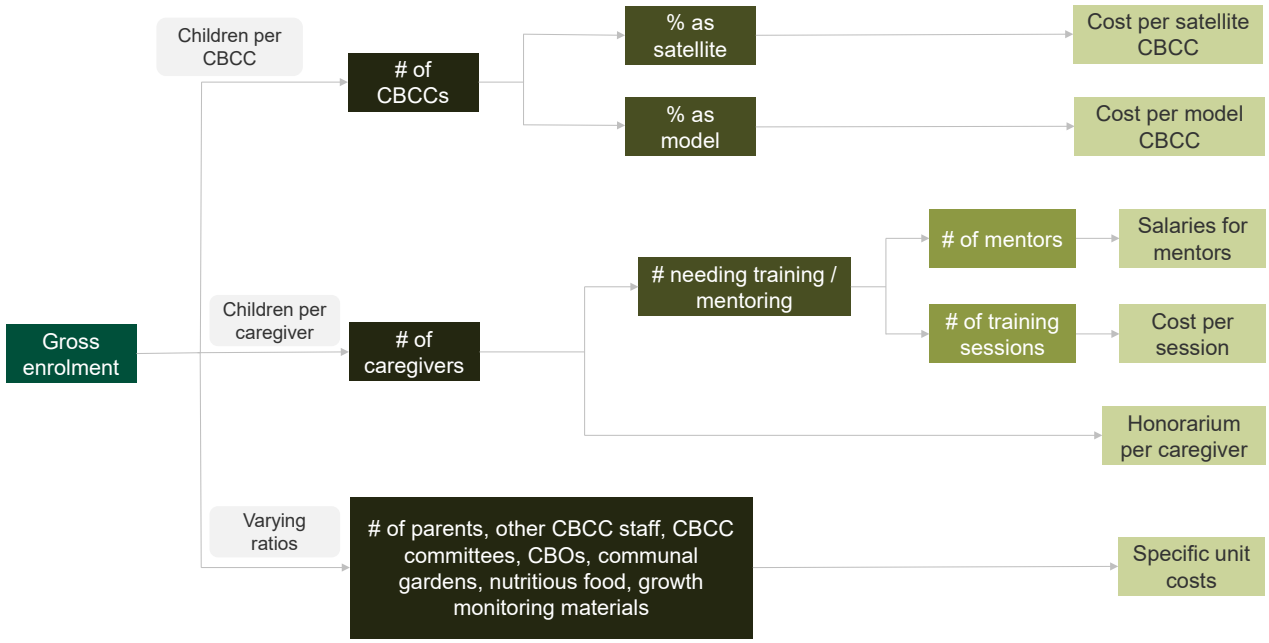
A review of academic and grey literature was then conducted to understand the **benefits of ECD (impact estimates)**. While literature from various contexts was analysed, there was a specific focus on evaluation findings from Malawi. The latter served to inform the benefits that can be expected from implementing ECD services in Malawi. The final benefits presented are based on findings from Malawi only.

2.1.2 Costs

Interventions identified in the literature review then needed to be costed. A **costing model** was developed to estimate the programme's cost under different **assumptions**: coverage, type of infrastructure and remuneration (honorariums or salaries). The costing model developed follows principles of activity-based costing, where activities to be conducted drive the programme's cost.

Figure 10 provides a high-level illustration of how the costing model works. The key driver of costs is the number of children (gross enrolment) admitted to the programme. Key ratios are then applied to the number of children to calculate the amount of resources required. For example, we assume that one caregiver attends to 25 children[7]; hence the total number of children in the programme divided by 25 equals the number of caregivers needed. These caregivers then incur programme costs such as training and honorariums.

Figure 10: Basic illustration of how the costing model works



Similar types of calculations apply to other programme elements. These are too many to be presented in Figure 10 but can be understood by the same logic. The assumptions for the different scenarios are provided in Section 5, which presents the programme's costs.

2.1.3 Benefits

The literature review identified the benefits associated with the required interventions. From these studies, we considered the interventions relevant to Malawi and for which

[7] *A ratio of 1:25 applies to 3 – 4 year old children. We assume a ratio of 1:30 for 5 years olds, i.e. pre-primary aged children.*

we have detailed cost data. These were then used to construct a theory of change, which provides a well thought out framework to understand how programmes can lead to impact and is used in this context to justify the estimation of benefits.

To explain how the benefits are then estimated quantitatively, it is important to understand the three types of benefits estimation techniques emanating from the literature:

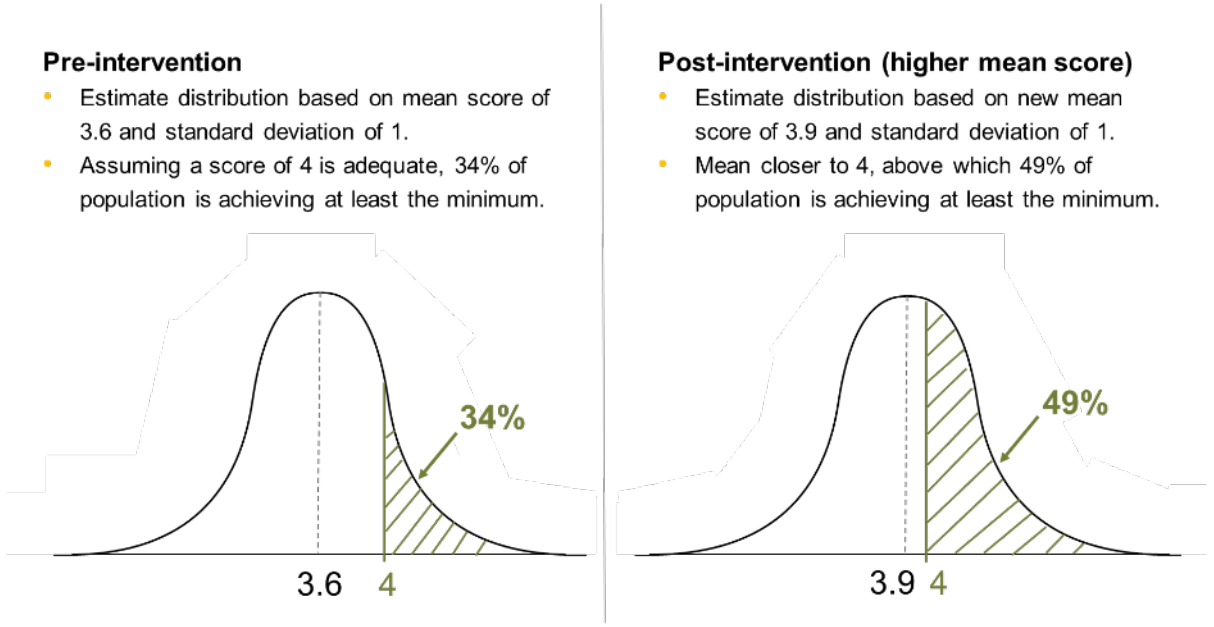
- **Pre- and post-assessment developmental scores**. These estimates are expressed in terms of the proportion of the sample being able to complete various child development assessments. Applying these benefits is simple because they signify the additional proportion of children who perform adequately in certain developmental areas after receiving the intervention. Although this benefits estimation approach relies on non-experimental evaluations, we do so because there is a lack of appropriate evaluations available for use. However, the costed interventions in this research are the exact interventions that were evaluated in the literature, which provides some justification to our approach.

- **Difference-in-differences test scores**. This is a quasi-experimental approach used to assess if children who attended ECD performed better academically in primary school than children who did not attend ECD. Since the results of these evaluations are presented as the percentage of children passing their final examinations for Standards 1 – 5[8], applying these benefits is done in the same way as the developmental benefits (pre- and post-assessment scores) were described.

- **The proportion of standard deviation estimates.** Impacts in these evaluations are from randomised control trials and are presented as the proportion of a standard deviation. By drawing on the best estimates we could find regarding the population average and standard deviation, we transformed the reported estimates into percentage improvements. After that, we assumed that the measure in question came from a normal distribution, which enabled us to estimate the proportion of the population above a certain score. This approach is illustrated in Figure 11.

[8] *The Standard 5 difference-in-differences estimate is assumed to be constant through to Standard 8.*

Figure 11: Illustration of standard deviation benefit estimation approach



2.2 Data

This research draws on a wide array of reports as data is not easily accessible.[9] Time series of government expenditure on ECD and ECD coverage and quality indicators were pieced together from different reports. Survey reports were also analysed for relevant outcome estimates as the microdata is rarely publicly available.

The 2018 Census informed the number of children eligible for ECD services.[10] Data for the costing came from the Roger Federer Foundation's programme budgets. Since these budgets provide detailed costs estimates, unit costs can be calculated and applied using the costing model, as illustrated in Figure 10.

Primary data was also collected from 117 CBCCs across 13 districts. The Roger Federer Foundation's implementing partners collected these from 81 intervention[11] CBCCs and 36 non-intervention CBCCs in the districts they are working in. The survey collected information on various aspects of the CBCC's operations: such as the relationship with stakeholders, recent changes to the CBCC, funding, and the initiatives aimed at pre-primary aged children. These data are used to inform the

[9] *These reports are referenced where applicable.*
[10] *(National Statistical Office, 2018)*
[11] *The Roger Federer Foundation is currently implementing the School Readiness Initiative in Malawi, referred to as intervention CBCCs.*

situational analysis, assumptions in the costing model and theory of change, and output-level benefits.

2.3 Scope and limitations

While a cost-benefit approach is adopted, benefits are not monetised as they would in traditional cost-benefit analyses, thus allowing fewer assumptions to be made. In addition, benefits are limited to the short- to medium-term, further requiring fewer assumptions as long-term benefits would necessitate international findings instead of relying on Malawi specific empirical work.[12]

This study focuses on CBCCs, which means that the interventions are centre-based and aimed at 3 – 5-year-old children. Only focusing on CBCCs aligns this research with the GoM's current plans regarding ECD.

The implication of estimating benefits for a programme that provides ECD services to children from 3 years old means that the benefit approximation approach needs to be moderated. This is because the first three years of a child's life is very important to their development. As such, this research makes reasonable assumptions regarding the ECD services children would have received before joining the CBCC. Specifically, this is dealt with by applying evaluation findings from Malawi programmes in the CBCC format. While we have only used evaluations for interventions conducted in Malawi, there always remains a risk of benefits not holding when a programme is implanted widely.

[12] *Long-term impacts of ECD have not been assessed in Malawi. Moreover, to our knowledge, long-term impacts of ECD have also not been investigated in Africa.*

3. Situational Analysis

This section presents a situational analysis, which aims to answer the first research question: *What is the current state of CBCCs in Malawi?* As a first step, this section provides an overview of the overall Malawian education sector (Section 3.1). Thereafter, the ECD landscape is investigated in detail regarding the policy framework (Section 3.2), the reality of operations at CBCCs (Section 3.3) and the types of centre-based programmes implemented recently (Section 3.4). This section also presents survey data results collected from more than 100 CBCCs (Section 3.5). Lastly, the situational analysis is summarised and the way forward is defined (Section 3.6).

3.1 Overview of Malawi education sector

The Third Malawi Growth and Development Strategy (MGDS) (2017-2022) identifies education and skills development as a key priority area. In line with the objectives of earlier MGDS's, the National Education Policy (2013) was developed. More recently, the development of the second education sector plan, the 2020-2030 National Education Sector Investment Plan (NESIP), provides a coherent approach to improving education in Malawi. Other recent education policy developments include the Grade Promotion Policy for Primary Schools, the National Girls' Education Strategy (2018-2023) and the Teacher Management Strategy. Ultimately, these policies and plans have committed to improving the education sector in terms of access, quality and equity.[13]

Malawi's education system consists of a formal and non-formal sector. Primary (8 years), Secondary (4 years) and Tertiary education constitute the formal sector. The non-formal sector comprises ECD (3 years), adult education, out-of-school youth, functional literacy, and complementary basic education. While the Ministry of Education Science and Technology (MoEST) is solely responsible for the formal sector, various government departments are responsible for the non-formal sector. ECD and adult literacy's responsibilities lie with the Ministry of Gender, Children, Disability and Social Welfare (MoGCDSW); out of school youth and functional literacy lies with the Ministry of Youth and Sports and complementary basic education with MoEST.[14]

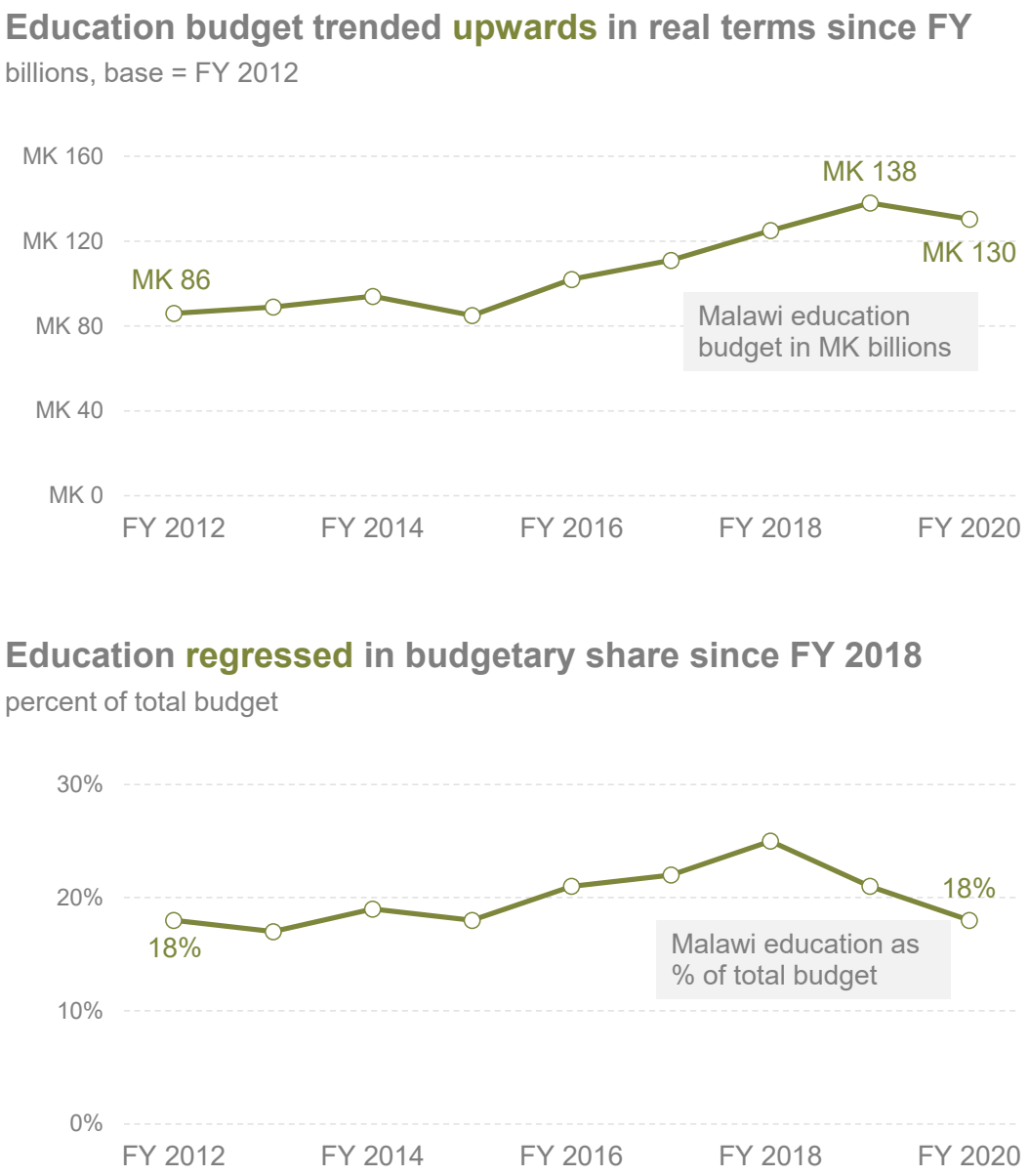
3.1.1 Education spending

Beyond positive education policy developments, the Malawian government has prioritised education within the budget. However, the encouraging education spending trends have been somewhat reversed in recent years, shown in Figure 12.

[13] *(UNICEF Malawi, 2019)*
[14] *(Ministry of Education, Science, and Technology, 2019)*

While real education spending increased since FY 2012, education as a percentage of the total budget decreased in recent years, regressing to 18% in FY2020, matching FY 2012. However, it is encouraging that education accounted for 6.6% of GDP in FY 2020, above the East and Southern African Region average of 4.5%.[15]

Figure 12: Education budget in MK billions and as a percentage of the total budget, FY 2012- FY 2019



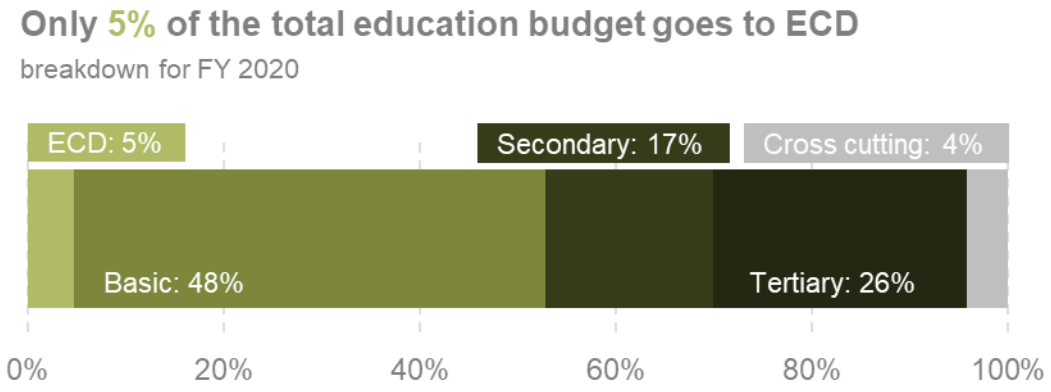
Source: Malawi government budget estimates cited in (UNICEF Malawi, 2019) and (UNICEF Malawi, 2020).
Note: The education budget comprises transfers to relevant ministries, local authorities and subvented educational institutions.

While there are some positive signs in overall education spending, the distribution of spending suggests some sectors may be underfunded. Historically, ECD received

[15] *(UNICEF Malawi, 2020)*

less than 1% of the total education budget. Encouragingly, ECD received 5% of the education budget in FY 2020 (see Figure 13), but it should be noted that the vast majority of these funds come from donor funding and the GoM's contribution remains persistently low. Figure 13 also shows that almost three-quarters of the budget goes to primary and tertiary education, and 17% goes to secondary education.

Figure 13: Composition of the education budget, FY 2020[16]



Source: Malawi programme-based budget cited in (UNICEF Malawi, 2020).
Note: The education budget comprises transfers to relevant ministries, local authorities and subvented educational institutions.

3.1.2 Education sector features

Even in the case of primary education, which gets slightly less than half of the education budget, there is a general lack of resources. The problem is that education spending falls short of what is needed. Malawi has a young (24.4% under 5 years old) and rapidly growing population creating a great demand for education. The supply of educational resources – teachers, infrastructure and learning materials – has not kept up with the bourgeoning of the school-aged population. Consequently, access to and quality of education have suffered.[17]

Problems in the education sector start from the bottom. Low levels of ECD spending seemingly translates into low levels of access. Only 48% of children between 4 and 5 years are enrolled in ECD. For those with access, quality is constrained as centres are predominantly operated and funded by communities ill-equipped to provide quality care and learning opportunities.[18]

In contrast, relatively high levels of basic education spending allow an enrolment rate of 90% in primary school. However, these gains are reversed for secondary school with an alarmingly low enrolment rate of 16%. While access differs, quality is an issue

[16] It must be noted that the composition of the education budget changes notably across years, but the general trend is that ECD and secondary education receive a disproportionately small share.
[17] (Ministry of Education, Science, and Technology, 2019)
[18] (Roger Federer Foundation, 2020)

for both primary and secondary education. There are far fewer classrooms and qualified teachers to provide learners with quality education, especially at the primary education level. Table 3 compares access and quality indicators for primary and secondary education in Malawi.

Table 3: Access and quality indicators for primary and secondary education, 2018

Indicator	Primary education	Secondary education
Number of schools	6 467	1 411
Learner coverage	90%	16%
Learners per classroom (average)	121	59
Learners per qualified teacher (average)	68	43

Source: (Ministry of Education, Science, and Technology, 2019); (UNICEF Malawi, 2020)

22%
primary education grade repetition rate in 2019

Limited learning materials and qualified teachers further exacerbate poor quality in primary education. Together, these factors contribute to high repetition and dropout rates. Strikingly, the average time to complete eight years of primary education is 13 years, while dropouts last 6.4 years on average. It was estimated in 2018 that approximately 2.4 million children aged 6-17 were dropouts. Given such outcomes, it is less surprising that the transition rate to secondary education is only 38.4%. Since few students make it to secondary education and the quality of education remains a problem, tertiary enrolment is also low. The number of students in tertiary education is estimated at only 36 000.[19]

These facts highlight severe problems in Malawi's education system. Malawian children face an arduous journey through the education system and the statistics show that the odds are stacked against them from an early age. Even children fortunate enough to access ECD services will likely have a tough time thriving in primary school. Nevertheless, a strong foundation is necessary to drive positive educational outcomes, and the very bottom of the foundation is ECD. *Quality early interventions are most effective and yields the best value for money.*[20]

3.2 ECD institutional and policy framework

The Malawian government acknowledges the importance of ECD, demonstrated by adopting a comprehensive, evidence-based policy framework. The first time child outcomes were incorporated in the national development framework was the original MGDS (2006-2011). This provided the impetus for revising the then National ECD Policy (2003); the Integrated ECD Policy (2008) provided a holistic approach to ECD by accounting for its multisectoral nature. After that, the ECD Strategic Plan (2009-2014) set out a path to improving access, quality, governance, and relevance. The

[19] *(Ministry of Education, Science, and Technology, 2019)*
[20] *(Heckman, 2008)*

strategic plan incorporated all ECD sectors (health, nutrition, education and social and child protection). It aimed to understand how they should work together to improve early childhood outcomes, ultimately identifying evidence-based interventions to be scaled.[21]

The policy framework is also guided by the NESIP, which places considerable emphasis on ECD. The focus is on increasing access by developing new centres, increasing the number of ECD teachers and developing support structures. The NESIP is guided by the National Education Policy (2013), which is linked to other policies such as the National Policy on ECD. Currently, ECD in Malawi is guided by the National Early Childhood Development Policy (2017), the most recent policy revision.[22]

The institutional framework actioning these policies comprises various stakeholders, including government ministries, non-governmental organisations (NGOs), development partners and communities. Responsibility for ECD mainly lies with the MoGCDSW, but given ECD's multisectoral nature, other ministries play a role to varying degrees. The MoGCDSW deals most directly with ECD in Malawi, with responsibilities ranging from registering ECD centres and developing minimum standards to developing and reviewing the ECD Act. However, within the MoGCDS there is no designated ECD department, so ECD does not have a robust institutional structure.[23] Although in practice the Ministry of Health is not as active as it should be given policy mandates, its responsibilities comprise a holistic set of healthcare interventions from antenatal care and screening illnesses at ECD centres to establishing community-based health programmes and providing information on appropriate nutrition. Like the Ministry of Health, the MoEST is seemingly playing a limited role in ECD, although its responsibilities include developing ECD curricula and learning materials, facilitating ECD training programmes for educators and bringing ECD into the mainstream.[24] While the MoGCDSW and MoEST seemingly have overlapping responsibilities, the MoGCDSW's role tends to be focused on implementation, while the MoEST focuses on pedagogy and standardisation.

ECD receives limited funding in Malawi, so it is not surprising that government departments have difficulty fulfilling their responsibilities. As such, non-government actors play a key role in the sector. NGOs and development partners create ECD materials, conduct capacity building for educators and communities, provide resources to establish ECD centres and support networking opportunities for implementers. It is unclear to what extent these activities are coordinated across

[21] *(Independent Evaluation Group, 2015)*
[22] *(Roger Federer Foundation, 2020)*
[23] *There is only an ECD unit in the Child Development Affairs department within the MoGCDSW.*
[24] *(Civil Society Education Coalition, 2015)*

different NGOs and development partners; reports suggest that there is duplication of efforts, and multiple organisations focus on some geographical areas, whereas others are left behind. Even with support from NGOs and development partners, there remains a great need, which is fulfilled to varying degrees by communities. Communities play a major role in establishing ECD centres, providing food for children and volunteers from the community often take care of children. To the extent that the community can, they also develop and provide learning materials.[25]

In summary, despite implementation shortcomings, the policy framework provides for a holistic approach to ECD. It is encouraging that there is a National ECD Policy and that ECD is provided for in the National Education Policy. The problem is that the MoGCDS is responsible for the National ECD Policy and the MoEST is responsible for the National Education Policy. The relevant units within these ministries have not been successful at supporting ECD coherently. The consequences of this are exposed when children transition from pre-primary (ECD) to primary school. There is a mismatch between curricula, children's records are not shared and there is a general lack of collaboration, resulting in children and parents receiving minimal to no support in the transition.[26] There have been developments in this regard, with the MoGCDSW developing a transition guide and the MoEST implementing an "introduction to school life and learning" component of the Standard 1 curriculum taught in the first seven weeks.[27] Moreover, the Roger Federer Foundation's School Readiness Initiative is being implemented in 13 districts to secure a smooth transition from ECD to primary school.

3.3 ECD in practice

The Child Development Affairs directorate within the MoGCDS supports ECD via 28 District Social Welfare Offices (DSWOs) at the local government level. Together with community and private service providers, NGOs, and development partners, these structures form the national ECD network. Although official mechanisms are in place for a coordinated approach to ECD, these initiatives are generally funded and facilitated by NGOs and communities, as are the establishment and operation of ECD centres.[28]

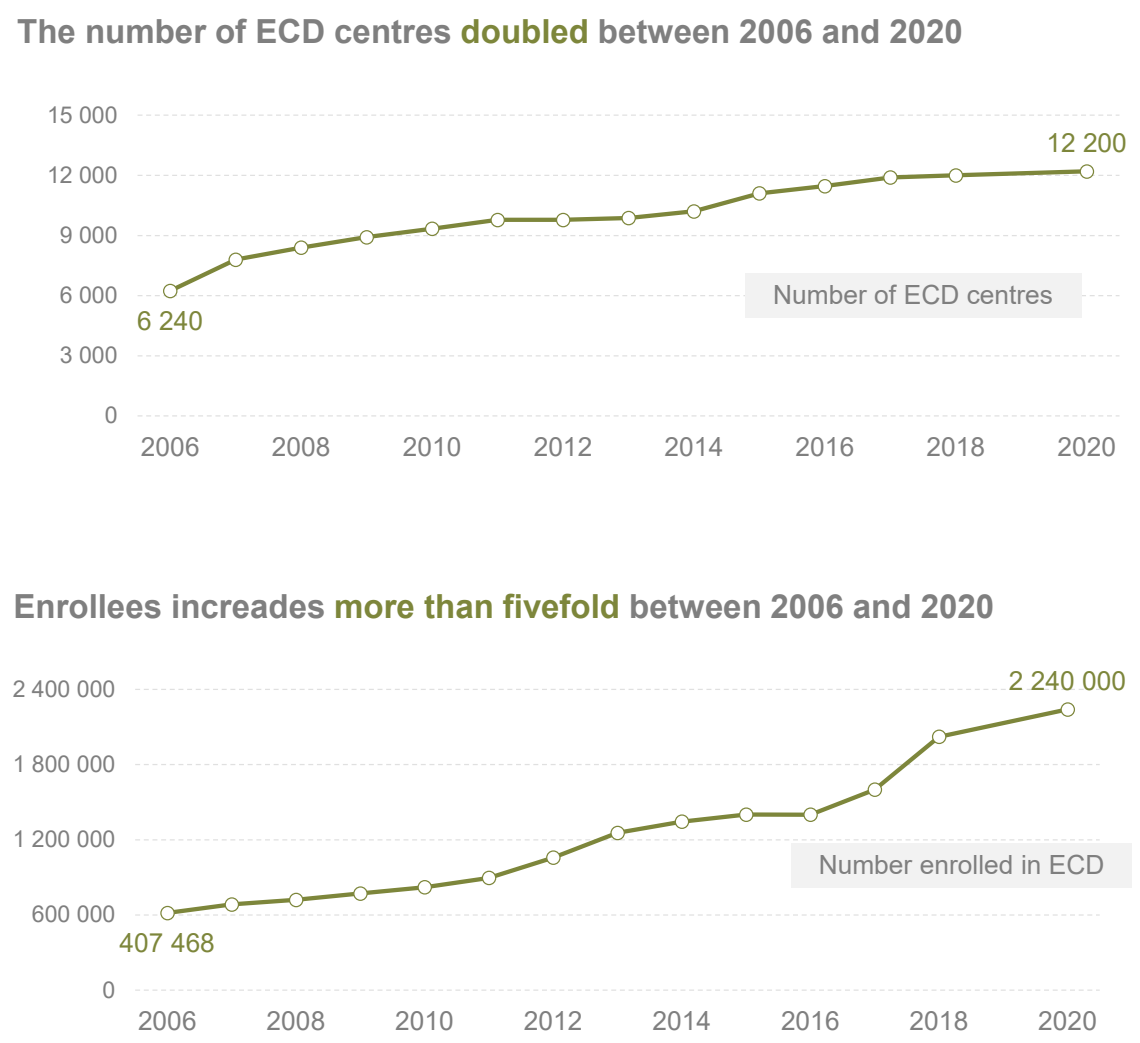
According to the MoGCDS's annual report on ECD, there are four types of ECD centres: (i) CBCCs, (ii) Pre-schools, (iii) Creches and (iv) Day Cares. In 2019, approximately 74% of all ECD centres were CBCC, making CBCCs the most common method of delivering ECD centre-based services for children aged 3 – 5-years-old.[29]

[25] *Ibid.*
[26] *Ibid.*
[27] *(Roger Federer Foundation, 2020)*
[28] *(SABER Country Report, 2015)*
[29] *(Ministry of Gender, Children and Social Welfare, 2019)*

3.3.1 CBCC coverage

Figure 14 shows that the number of ECD centres doubled between 2006 and 2020 and over the same period, the number of learners enrolled in ECD increased more than fivefold. Nevertheless, despite meaningful gains in ECD coverage, less than 50% of children aged 3-5 years old access ECD services.[30]

Figure 14: Number of ECD centres and enrolees, 2006-2020



Source: (Ministry of Gender, Children and Social Welfare, 2019)

[30] *(UNICEF Malawi, 2019)*

Textbox 1: A deeper look at reported coverage estimates

While there are frequently cited ECD statistics (shown above and from other reports), detailed disaggregated data is rarely available. This has likely led to misinterpretations of what data represent and inconsistent estimates of ECD coverage in different reports. For example, the total number of ECD centres is sometimes conflated with the total number of CBCCs. Due to such reporting issues, we use the MoGCDS's estimates to guide our interpretation of statistics cited in other reports. Specifically, we assume that CBCCs make up approximately 74% of the total number of reported ECD centres.

Further, a key issue with the lack of detailed disaggregated data is that it is unclear how the number of children accessing ECD in Malawi, as reported, translates to the number of children accessing ECD via CBCCs. This is a result of two issues:

- The reported number of children accessing ECD is not separated by the **type of ECD centre**, and
- The reported number of children accessing ECD is not separated by the **age of children**.

These issues prohibit us from knowing the exact number of 3 – 5-year-old children accessing ECD via CBCCs, which is crucial when estimating costs in Section 5. Resolving this issue requires us to assume that the number of children accessing CBCCs is proportionate to the number of CBCCs relative to all ECD centres. We then also rely on a statistic by Munthali, et al. (2014), which states that 65% of all children accessing CBCCs are of the correct age, i.e. 3 – 5-years-old. These assumptions turn out to be reasonable, as they translate to a CBCC net enrolment rate of approximately 50%, which is an oft-cited statistic in various reports.

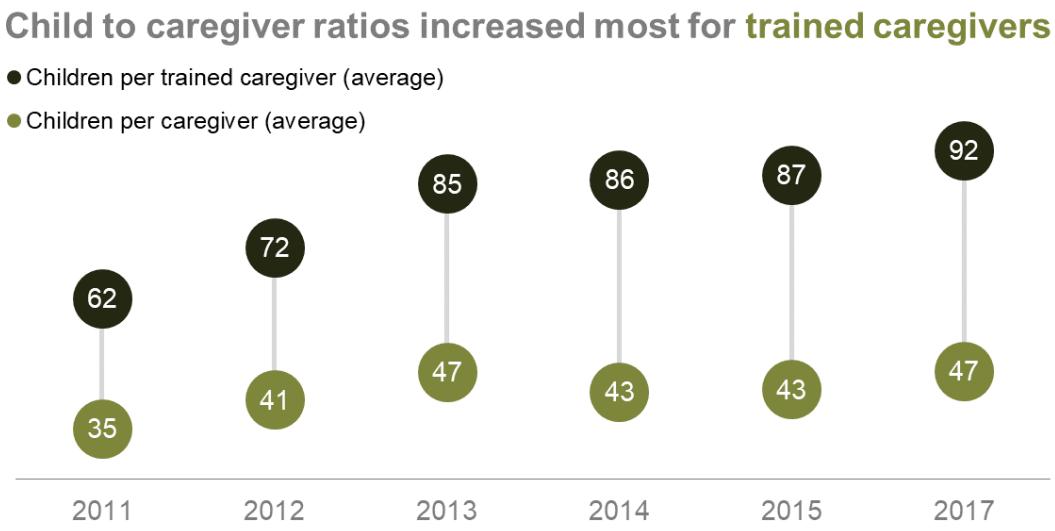
CBCCs constitute the majority of ECD centres and are representative of the ECD landscape in Malawi. For the most part, CBCCs are established by communities with very limited resources, which is why the number of CBCCs falls well short of the need. Further, the quality of infrastructure is also an issue. Partly, this is because communities work with what they have. CBCC buildings tend to be inside churches, old shops or peoples' homes. An early mapping exercise found that only 30% of CBCC buildings were owned by the organisation and that 43.5% of CBCCs were used for other activities when not providing ECD services.[31]

[31] *(Munthali, et al., 2014)*

3.3.2 CBCC caregivers

Since cash-strapped communities are the major provider of ECD services, it follows that ECD services will be of low quality. One aspect of low quality is the very high child to caregiver ratio in CBCCs, shown in Figure 15. Trained caregivers are scarce, indicated by an average of 92 children overseen by one caregiver in 2017. To accommodate for the lack of trained caregivers, unqualified caregivers, often from within communities, assist with overseeing children.[32] Even with unqualified caregivers, the number of children per caregiver is still high and increasing.

Figure 15: Average number of children per caregiver, 2011-2017



Source: (Civil Society Education Coalition, 2015); (Roger Federer Foundation, 2020)

The trend in Figure 15 shows that the number of caregivers entering the system has not kept up with the number of children. Further, these estimates suggest that, relative to trained caregivers, untrained caregivers are increasingly providing ECD services. Given that many caregivers are untrained, it is likely that children are not being stimulated adequately. Further, even when a trained caregiver is present, the large number of children they must oversee will impede quality.

A further frequently mentioned issue is that caregivers are rarely paid for their services. Caregivers thus forego the opportunity to earn a living when volunteering at CBCCs. Consequently, caregiver turnover is high. Indeed, one of the most common

[32] *(Shallwani, et al., 2018)*

reasons for CBCCs to not operate consistently is caregiver absenteeism. Even when trained caregivers operate CBCCs, there is little incentive for them to remain.[33]

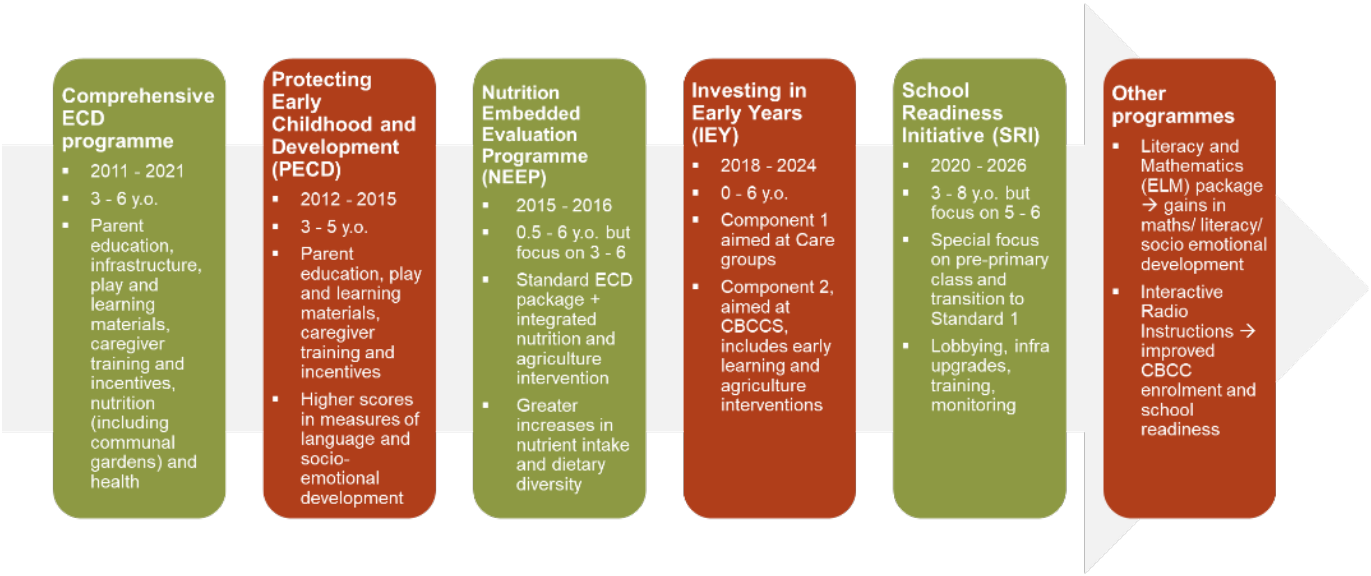
3.3.3 Other challenges

It follows that the quality of CBCC services tends to be low, especially due to poor instructional practice. Quality learning opportunities are few, and even free play tends not to be facilitated effectively. While many problems with CBCCs link back to untrained and unpaid caregivers, the general resource-constrained environment makes it difficult for caregivers to operate effectively. Play and learning materials are generally scarce, and food – if not provided by parents – tends to be in short supply. Hygiene is also an issue, with many CBCCs not having adequate water and sanitation facilities. Although there have been meaningful gains regarding antenatal care, health services are generally lacking.[34]

3.4 ECD programmes in Malawi

Some of the preceding findings are dated, but the overall sentiment regarding the state of CBCCs remains. That being said, there have been notable gains in terms of coverage and quality over the past decade. These benefits have been driven by development partners working with the GoM to implement evidence-based ECD programmes. Figure 16 summarises the main programmes aimed mostly at the CBCC level.

Figure 16: Centre-based ECD programmes in Malawi



[33] *(Munthali, et al., 2014); (Shallwani, et al., 2018)*
[34] *Ibid.*

The key development partners in the ECD space have been the World Bank, Save the Children and the Roger Federer Foundation. These organisations have worked with the GoM and other local players to implement the programmes shown in Figure 16. The evaluations of some of the programmes shown in Figure 16 are used to estimate the benefits in Section 6. Specifically, the costs are estimated using programme budgets from the Roger Federer Foundation: (i) the Comprehensive ECD Programme and (ii) the School Readiness Initiative (SRI).

The School Readiness Initiative is an especially interesting programme because it introduces a different element. The School Readiness Initiative focuses on helping children prepare for the transition to Standard 1 by establishing a separate pre-primary class within CBCCs. The smooth transition will also be assisted by engaging with stakeholders to ensure schools are better positioned to deal with new entrants. To address problems with the quality of learning, the School Readiness Initiative is implementing an innovative approach where caregivers can access offline training materials using a tablet.[35]

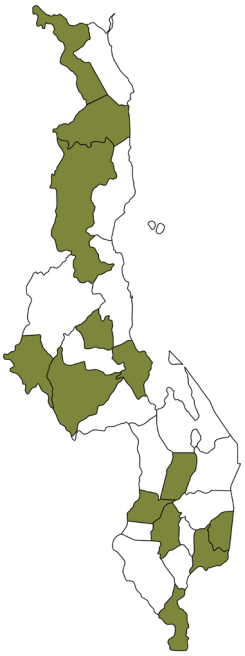
3.5 Survey findings

Since the School Readiness Initiative is currently in implementation, the Roger Federer Foundation and its implementing partners could easily collect data to supplement this research. This section analyses primary data collected from 117 CBCCs across 13 out of Malawi's 28 districts. Figure 17 shows the number of CBCCs in the sample by district and intervention status. The 13 sampled districts are spread across Malawi, implying that the subsequent analyses are representative across various contexts. All data presented in this section are from this sample; hence, data sources are not reported.

Approximately two-thirds of all CBCCs are receiving the Roger Federer Foundation's School Readiness Initiative programme. The survey results are used in this section to augment the situational analysis. While intervention and non-intervention CBCCs are compared in this section, their differences are exploited in Section 6 (Benefits) to support the benefits estimation approach. As such, other findings from the survey are presented in Section 6.

[35] *(Roger Federer Foundation, 2020)*

Figure 17: Number of CBCCs in sample by district and intervvention status



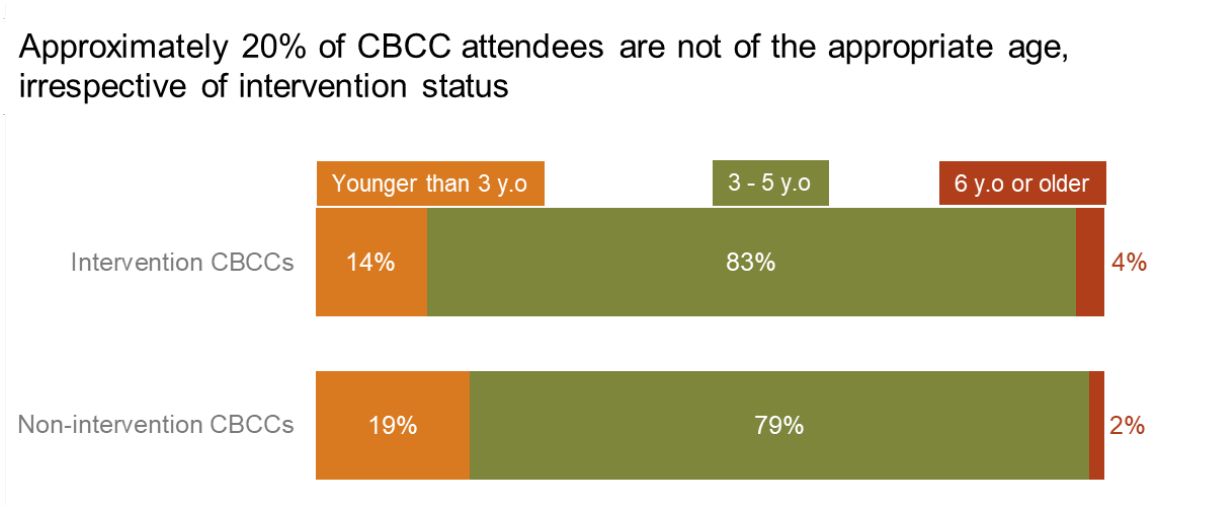
District	CBCCs receiving SRI intervention	Non-intervention CBCCs
Balaka	3	3
Blantyre	8	3
Chitipa	6	3
Lilongwe	11	3
Mchinji	2	3
Mulanje	7	3
Mzimba	12	11
Neno	2	0
Nsanje	6	0
Ntchisi	7	0
Phalombe	3	3
Rumphi	7	1
Salima	7	3
Total	**81**	**36**

3.5.1 Caregivers and children

One aspect the survey aimed to gain information on was the situation regarding caregivers and children. The overwhelming majority of caregivers are volunteers, meaning they do not receive any pay for their services. Only in very rare cases do caregivers receive money for working at a CBCC. However, caregivers at intervention CBCCs access other types of incentives such as soft loans.

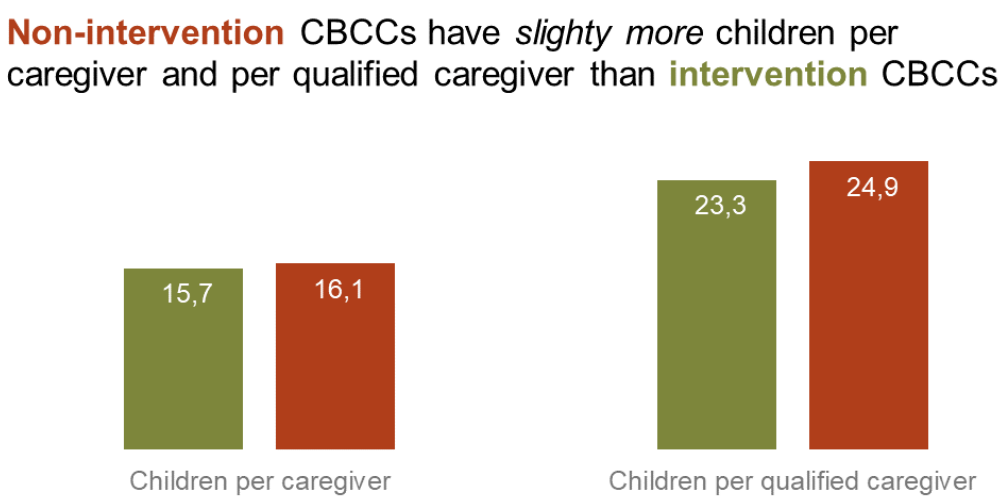
Regarding the children at CBCCs, their age distribution is shown in Figure 18. Approximately 80% of learners are of the appropriate ages (3 – 5-years-old), but many children are younger than 3 years old. Having children younger than three at CBCCs could be problematic as CBCCs are geared towards supporting older childrens' development.

Figure 18: Age distribution of CBCC attendees



That there are children at the CBCC who are too young implies an extra workload for caregivers. Nevertheless, it is encouraging that the caregiver to child ratio is not too large, as shown in Figure 19. This is true for both intervention and non-intervention CBCCs, with little difference observed by intervention status. However, it should be noted that caregivers often operate on a rotational schedule, so it may be that the actual caregiver to learner ratio is higher than Figure 19 suggests.

Figure 19: Children per caregiver and qualified caregiver

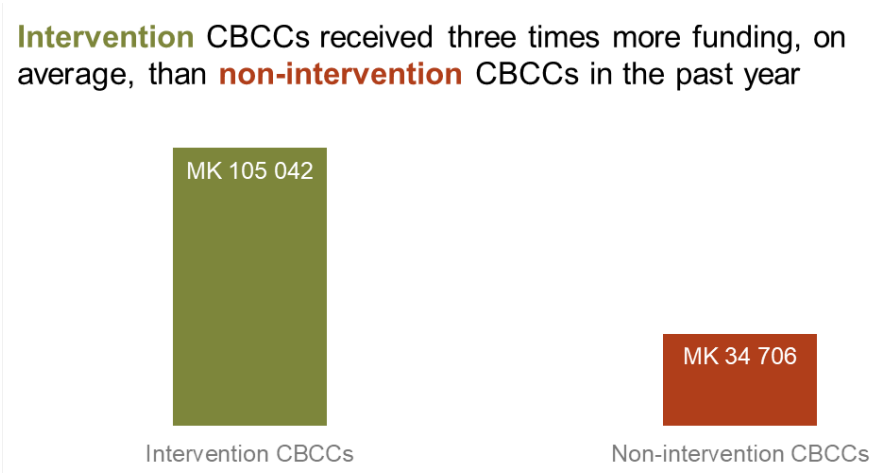


3.5.2 Funding

The other aspect of the survey relevant to the situational analysis is funding. Figure 20 and Figure 21 investigate the support CBCCs receive in terms of total funding and the percentage contributed by different funders, respectively. On average, intervention CBCCs received approximately three times more funding than non-intervention CBCCs.

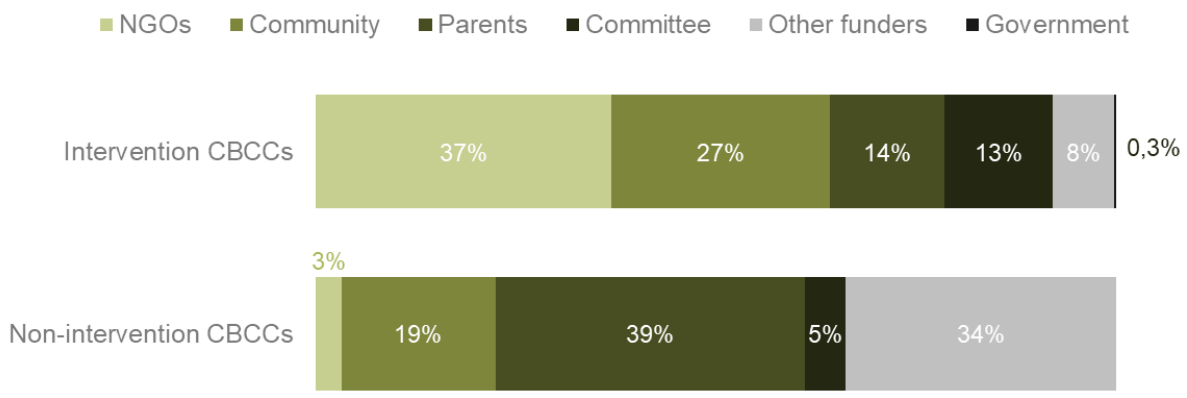
Figure 21 shows that the largest percentage of funding for intervention CBCCs comes from NGOs (37%). NGOs likely refer to the organisations implementing the School Readiness Initiative with funding from the Roger Federer Foundation. As such, the funding intervention CBCCs received in the past year(s) is unlikely to be the norm. However, it is encouraging to note that parent and community contributions are high, which indicates a more sustainable source of funding for the CBCC.

Figure 20: Average funding received by intervention status



Note: Respondents were asked: "How much in total was received as funding last year in the past year?"

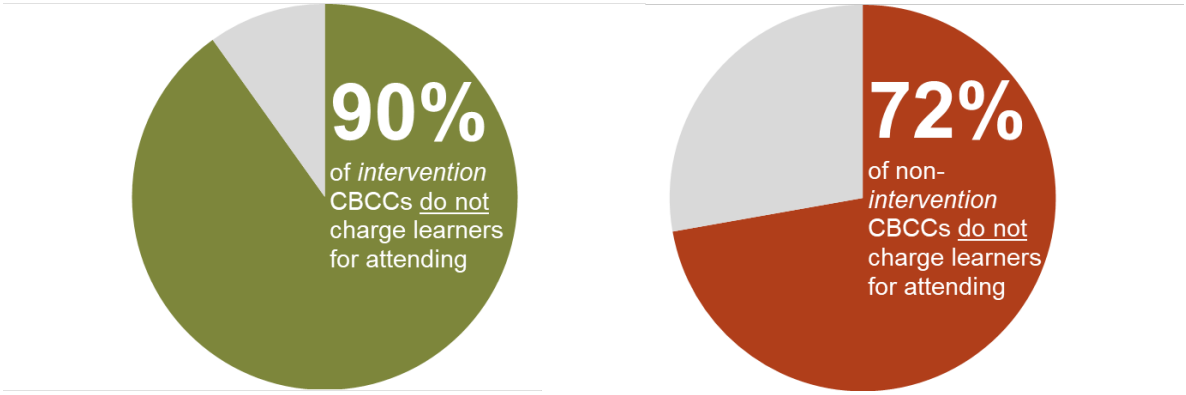
Figure 21: Average contribution percentage by funder type



Note: Respondents were asked: "What percentage of total funding was received from the ___ in the past year?"

Since intervention CBCCs receive more funding, they should be better positioned to provide ECD services free of charge. This hypothesis is supported by Figure 22, where 90% of intervention CBCCs report not charging learners, compared to 72% of non-intervention CBCCs. Overall, even among non-intervention CBCCs, most do not charge learners for attending the centre.

Figure 22: Percentage of intervention and non-intervention CBCCs that do not charge learners for attending



Note: Respondents were asked: "Does the CBCC charge learners for attending the CBCC?"

3.6 Summary of situation analysis and way forward

Overall, Malawi has come a long way since starting to tackle challenges related to children's development in the early 2000s. The government has adopted a comprehensive ECD policy framework that acknowledged the need for a multisectoral approach. Consequently, the state of ECD has been moving in the right direction ever since. However, the need is still large, and even among populations with access to ECD services, the quality of services is of concern. The main ECD challenges are summarised below:

- **Low funding towards ECD.** Despite significant increases to the ECD budget in recent years, the GoM's contribution remains very low. In FY 2017, less than 1% of the education budget went towards ECD, reflecting the funding situation in the absence of considerable donor support.

- **Low ECD coverage of 3 – 5-year-olds.** It is estimated that only 50% of 3 – 5-year-olds access ECD services. This is equivalent to approximately 850,00 3 – 5-year-old children not having access to ECD.

- **Low quality of CBCC infrastructure.** CBCC structures often fail to ensure that the physical environment is safe and conducive to children's development. For example, CBCCs often lack sufficient classrooms for children, do not have separate classes for children of different age groups, and lack other facilities such as caregiver offices and kitchens. In addition, children's play areas are sometimes close to hazards such as open cooking areas.[36]

[36] *(Shallwani, et al., 2018)*

- **Untrained caregivers.** Approximately 48% of all ECD caregivers are trained.[37]

- **Unpaid caregivers.** Most caregivers do not receive monetary compensation, making it difficult to attract and retain qualified caregivers. One study reports that 76% of caregivers receive no pay at all, and among those who are compensated, they receive between 3 to 14 USD a month.[38] Primary data collected in this study indicates 77% of caregivers do not receive any incentives, and among those that are incentivised, they rarely receive monetary compensation.

- **Supposedly high caregiver to child ratios.** The most recent official estimate suggests this ratio could be around 69.5[39], although this conflicts with the data collected in this research.

- **Lack of play and learning materials.** CBCCs are poorly equipped with these tools of the trade. Hence, children are not stimulated adequately, and their development is impeded.

- **Inadequate water and sanitation.** Few CBCCs' toilets are permanent structures, most being inappropriate for children. Many struggle to access safe water, and piped water at the CBCC is uncommon.

New developments in the sector are promising and will hopefully go a long way to improving the lives of children. While such programmes have advanced the ECD agenda, these programmes have not been led by government. However, the GoM has been involved in these programmes and started including ECD targets in their strategic plans in recent times (see NESIP). This is an indication that the GoM is prioritising the implementation of ECD. Findings from the remainder of this report will assist the GoM as they move forward to enhance ECD quality and coverage.

[37] *(Ministry of Gender, Children and Social Welfare, 2019)*
[38] *(Shallwani, et al., 2018)*
[39] *Ibid.*

4. Defining the interventions

The selection of interventions follows from problems identified in the sector and what is known to be effective. The availability of cost data also drove the interventions selected. The research team had access to detailed programme budgets from the Roger Federer Foundation's two programmes, the Comprehensive ECD programme and the School Readiness Initiative. Fortunately, these two programmes implemented a wide range of interventions. As such, there is substantial overlap between the Roger Federer Foundation's programmes and other CBCC programmes implemented in Malawi (see Figure 16) to the extent that the availability of cost data did not meaningfully limit the available options.

4.1 Programme elements

Figure 23 lists the interventions that make up the programme and will be the basis for estimating costs and benefits. These interventions are classified into four categories. The 'management / enablers' interventions are those activities that must be done to create an environment in which the programme can be effective. The 'infrastructure' interventions include building satellite and/or model CBCCs and natural playgrounds. The 'nutrition / health' interventions aim to create a healthy environment, and the 'quality early learning' interventions help children develop holistically.

Figure 23: List of interventions

Management / Enablers	Infrastructure	Nutrition / Health	Quality early learning
• Training CBCC committee members • Mobilise community stakeholders to support CBCCs establishment and operations • Advocate to local leaders to promote / enforce CBCC and primary attendance • Salaries for one person from the CBO and programme support staff • Monitoring & Evaluation	• Build model CBCCs • Build standard CBCCs, e.g. satellite CBCCs • Upgrade existing CBCCs (simple improvements akin to satellite CBCCs) • Natural playgrounds	• Communal gardens • Supply of nutritious food at the onset of programme • Hygiene and sanitation training • Nutrition and growth monitoring training • Materials for growth monitoring and quarterly assessments • Provisions of cooking utensils, plates, pails, spoons and cups • Community food contribution and preparation • Potable water	• Caregiver / programme staff / mentor training • Mentoring for caregivers • Honorariums / salaries for caregivers, other staff and mentors • Talking walls and play materials making • Educational materials for caregivers and parents • Radio programmes • Parent committee training • Community / parents sensitisation & open day • Revolving fund

4.2 Assumptions

Providing ECD services through CBCCs is done in rural settings. As such, full CBCC coverage means providing CBCCs for all children in rural Malawi. Since the 2018 Census estimates that approximately 83% of Malawians live in rural settings, this research considers full coverage as 85% of all 3 – 5-years-old children. As previously

mentioned, it is estimated that approximately 50% of 3 – 5-years-old children access ECD. Therefore, coverage needs to increase from 50% to 85%. These percentages are known as the **Net Enrolment Rate (NER)**, which is the number of 3 – 5-years-old children accessing CBCCs expressed as a percentage of all.

The **Gross Enrolment Rate (GER)** is calculated as the total number of all children accessing CBCCs as a percentage of all 3 – 5-years-old children. Since many children are younger than three or older than five in CBCCs, the GER is larger than the NER. A mismatch between the NER and GER is problematic. It indicates the system is not operating effectively as the CBCC environment may not be appropriate for younger children and/or that children are not entering primary school at the correct age. However, the fact that the GER is larger than the NER is a reality of the system, which implies that the costing and scaling of the programme must take this feauture into account.

Table 4 shows how the NER is increased over the ten years, and the GER is decreased until they both equal 85%. This would mean that, by the end of the period, all children in rural areas access ECD via CBCCs and that only children aged 3 – 5-years-old will be in CBCCs. Note that the GER is driving the actual number of children in the programme as it is either greater or equal to the NER.

Table 4: Programme scaling

ECD coverage		
Year	NER	GER
1	50%	100%
2	50%	100%
3	55%	100%
4	55%	95%
5	60%	95%
6	65%	95%
7	70%	90%
8	75%	90%
9	80%	90%
10	85%	85%

A 10-year scaling period was chosen to match the GoM's existing plans outlined in the National Education Sector Investment Plans (NESIP). While the costing tool can accommodate various scenarios, such as a shorter or longer implementation period, this report is limited to only a few scenarios to keep the findings succinct.

There are two main scenarios:

1. Recommended scenario: all 3 – 5-years-old children [40]

[40] *The Minist of Ministry of Gender, Children and Social Welfare's Early Childhood Development Standard Operational Procedures and Guidelines indicates that children aged 3 – 5 years old should attend centre-based ECD.*

2. SDG 4.2 scenario: only 5-year-old children (pre-primary class)[41]

Full coverage of the relevant age group is the goal in both scenarios, but the second scenario allows for a cheaper total programme cost. This approach was due to the importance of having a dedicated pre-primary class that can adequately prepare children to thrive in primary school.

The second scenario will, however, have a higher unit cost than the first scenario. This is for two reasons. First, pre-primary class caregivers receive training and mentoring, whereas other caregivers receive training only. The second issue relates to the fact that even if fewer children are part of the programme, a similar number of CBCCs will need to be built. This is because the 50% of 3 – 5-years-old (or just 5-years-old) that do not access ECD services likely live in areas where CBCCs have not been established. There is no precedent for building satellite or model CBCCs for 5-years-old children only; hence the full cost of either is incurred. However, for the second scenario, all CBCCs will be established as satellite CBCCs.

4.3 Further implementation assumptions

Table 5 lists the main programme assumptions. The GoM plans to provide honorariums for caregivers and employ mentors as full-time salaried employees. Honorariums of MK 15 000 are currently being paid to some caregivers, but mentors have not yet been employed, and it is not known how much they will be paid as full-time employees. As such, for each of the two scenarios, we present the cost if mentors were paid the minimum salary offered to GoM employees. Alternate scenarios are also presented where mentors receive an honorarium 25% higher than caregivers.

Table 5: Main assumptions

Aspect	Assumption	Note
# 3-4 y.o per caregiver	25	
# 5 y.o per caregiver	30	
# caregivers per satellite CBCC	4	
# caregivers per model CBCC	8	
Caregiver honorarium	MK 15 000	per month
Mentor salary	MK 100 000	per month
Mentor honorarium	MK 20 000	per month (alternate scenario)
Number of existing CBCCs	8 198	
% of excisting CBCCs needing upgrades	61%	Upgraded as satellites
New CBCCs built as satellite CBCCs (%)	50%	100% under SDG 4.2 scenario
New CBCCs built as model CBCCs (%)	50%	0% under SDG 4.2 scenario
# CBCCs per mentor	5	
Parent / community contribution per CBCC	MK 34 706	Per year
M&E as % of total programme costs	10%	
Inflation	0%	Costs in real terms

[41] This scenario is in line with SDG 4.2, which states that children aged 3 – 5 years old should receive at least one year of quality pre-primary education.

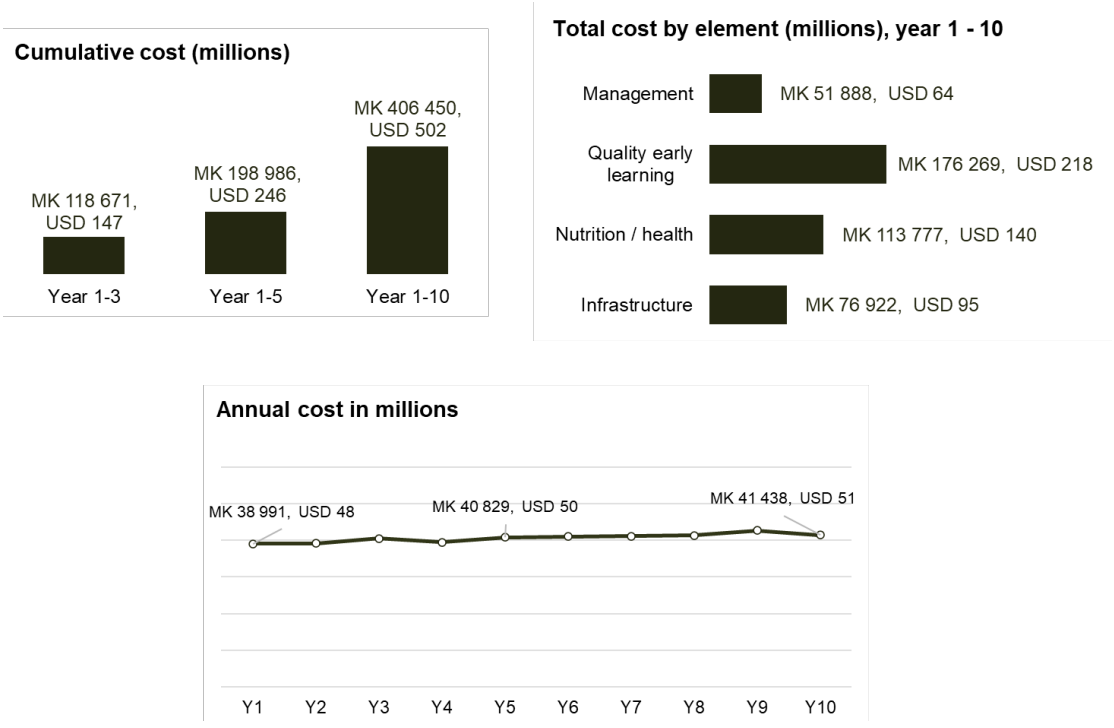
5. Costs

This section analyses the programme's costs based on the definition and assumptions discussed above. There is also a brief discussion of financing options.

5.1 Recommended scenario: Coverage of all 3 – 5-year-olds

Figure 24 and Figure 25 present the costs for scenario 1 (Recommended scenario) with salaries for mentors and honorariums (alternate scenario) for caregivers, respectively. The total cost with salaries over the ten years is MK 406 billion (USD 501 million[42]) in real terms[43] (Figure 24). This is equivalent to an average increase of the annual ECD budget by 112%. However, it is important to note that the majority (85%) of the current ECD budget is going to the World Bank funded IEY programme. As such, the GoM's annual contribution to ECD would have to increase by 4,416% if it were to fund the total cost shown in Figure 24. This massive increase is not a result of the programme's costs but rather reflects underinvestment in ECD. The programme would be fully funded if 10.5% of the education budget or 1.9% of the total budget was allocated to ECD annually.[44]

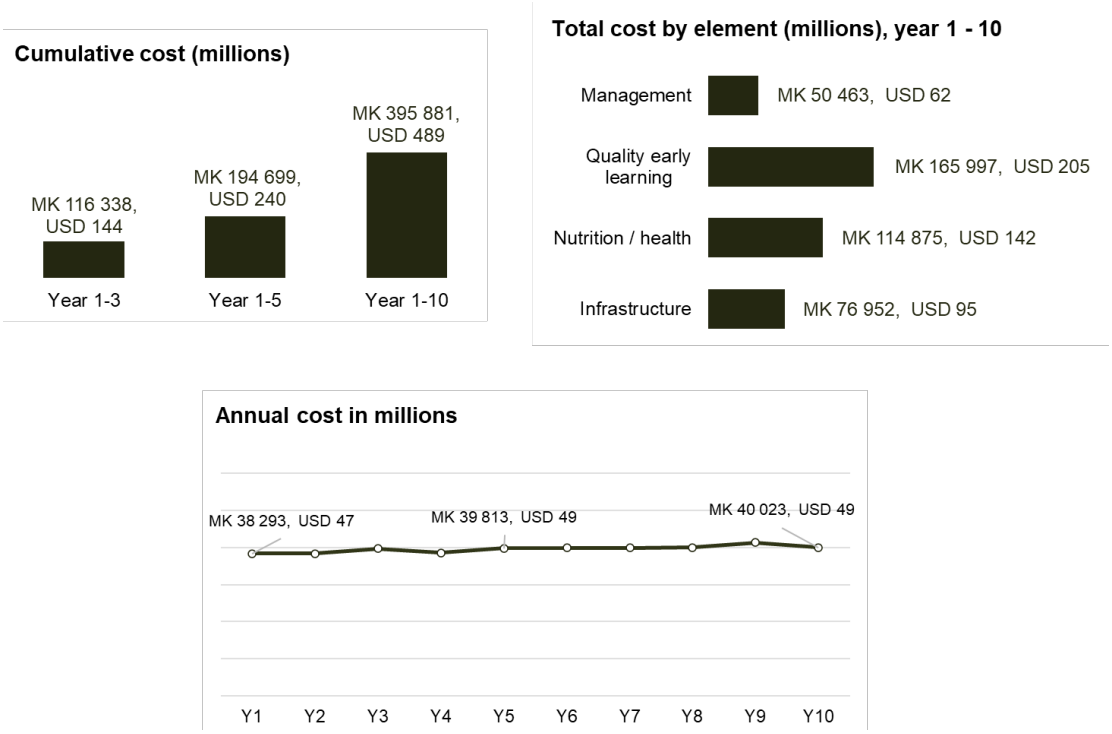
Figure 24: Recommended scenario - Coverage of all 3 – 5-years-old children



[42] *1 USD = 810 MK*
[43] *2021 prices*
[44] *These estimates must be understood in the right context. This programme does not cover broader aspects of ECD and is limited to children aged 3-5 years old. As such, the GoM will face additional outlays.*

Providing mentors with honorariums instead of salaries (Figure 25) reduces the programme's total cost over the 10 years by MK 11 billion, approximately 2.8% of the total cost. Changing the amount paid to mentors has a relatively small impact on total costs because mentors are programmed to support pre-primary caregivers only. Further, it was assumed that mentors will be paid the minimum amount offered to salaried GoM employees. Costs could be much higher (in Figure 24) if mentors are paid more than the minimum.

Figure 25: Alternate Recommended scenario - Coverage of all 3 – 5-years-old children



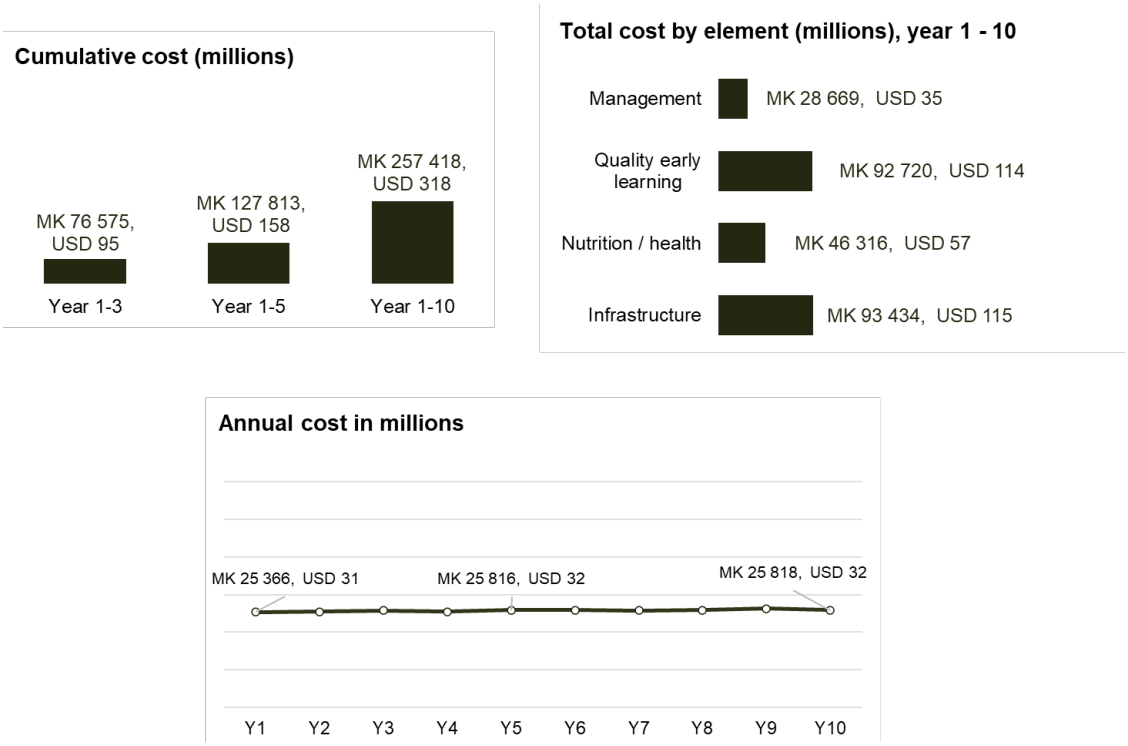
Overall, the highest costs accrue to the ‘quality early learning’ programme element, followed by the ‘nutrition/health’ programme element. This is mostly due to the cost of honorariums and salaries to caregivers and mentors, respectively. The ‘quality early learning’ programme element costs more than the ‘nutrition/health’ programme element because more caregiver time is spent on the former. Further, mentor costs only accrue to the ‘quality early learning’ programme element.

The costing method was purposefully aimed at roughly equalising annual costs, hence the nearly flat annual cost curve. It is however possible to programme in such a way that costs start lower and end higher, albeit with the same average cost over time. The reader should keep in mind that while the NER is increasing, the GER is driving programme costs. Although the GER is decreasing across the ten years, accounting for population growth implies that the number of children in the programme is increasing slightly.

5.2 SDG 4.2 scenario: Coverage of 5-year-olds only

Figure 27 (alternate scenario) present the related costs for scenario 2 (SDG4.2 scenario). Targeting only 5-year-old children has the benefit of reducing programme costs substantially. The programme would costs MK 257 billion (USD 317 million[45]) in real terms[46] over the ten years (Figure 26). This is a viable option in the face of budget constraints. The costs in Figure 26 could be fully covered if 6.7% of the education budget or 1.2% of the total budget was allocated to ECD annually.

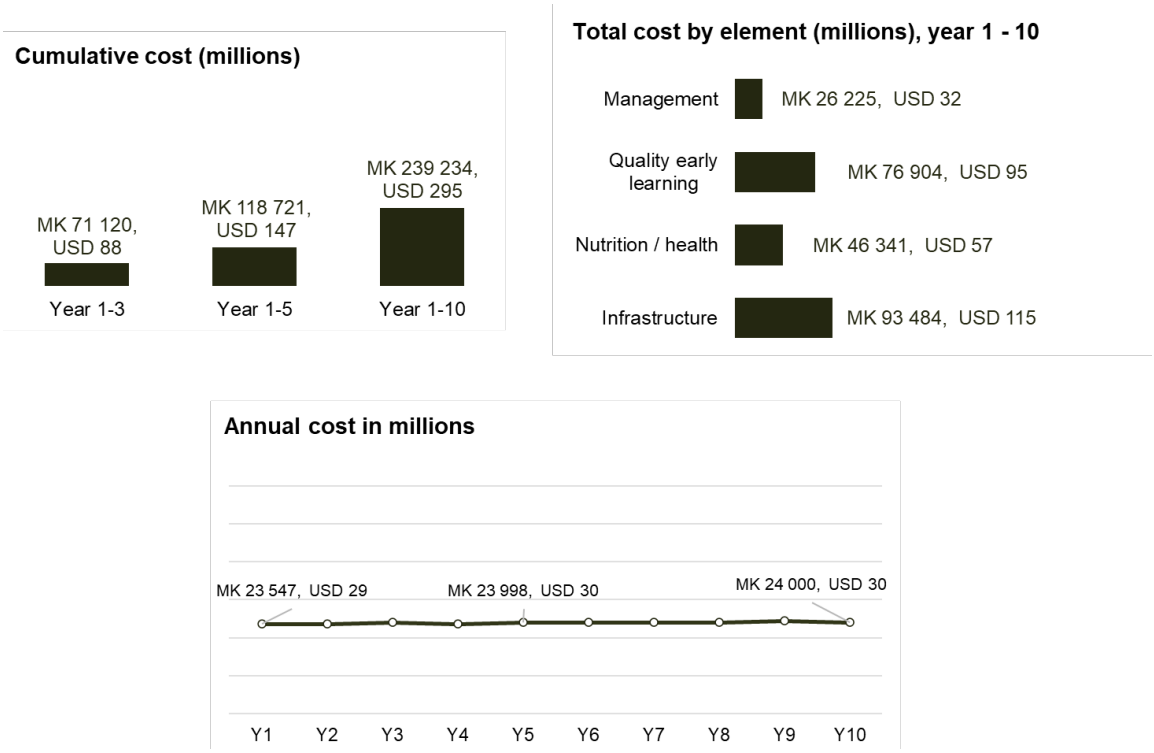
Figure 26: SDG 4.2 scenario - Coverage of only 5-year-old children



While the overall cost structure remains the same as scenario 1 (Recommended scenario), it must be noted that implementing the programme for 5-year-old children only means that certain inefficiencies enter the system. Specifically, it is not practical to build CBCCs for 5-year-old children only. As such, the infrastructure costs presented in this scenario is sufficient to house all 3 – 5-year-old children in Malawi, albeit all in a satellite format. The upshot of this approach is that it lays the foundation for future coverage of 3 – 4-year-old children.

[45] *1 USD = 810 MK*
[46] *2021 prices*

Figure 27: Alternate SDG 4.2 scenario - Coverage of only 5-year-old children



5.3 Financing options

While funding this programme will imply a considerable increase in the amount the GoM is currently spending on ECD, funding the programme is not unrealistic. This programme's costliest (cheapest) version would require 1.8% (1%) of the total GoM budget. While 1.2% - 1.9% of the total budget is not necessarily small, it is not prohibitively expensive given the benefits of ECD discussed in the next section. This section provides a brief overview of what some countries have done to finance ECD.[47]

Various traditional financing mechanisms have been used to fund ECD programmes. When the pre-primary grade was made mandatory in South Africa, the National Treasury instated a conditional grant[48] for three years. Provincial governments (Departments of Education) were then required to include ECD in their budget allocations.[49] More broadly, the Department of Social Development provides a per child subsidy to registered ECD centres based on an income means test. The Department of Social Development also has a specific programme that funds non-profit organisations, many of which provide centre-based ECD services.[50]

[47] *A detailed analysis of financing options is outside the scope of this research.*
[48] *A grant provided by national government to provincial government for a specified purpose.*
[49] *(Results for Development, 2016)*
[50] *(Giese & Budlender, 2011)*

It is common for countries to provide subsidies or cash transfers based on income. Denmark and France require families to pay for ECD services based on a sliding scale, while Chile has a mix of private and public ECD service providers subsidised to serve children in the bottom three income quintiles. Since ECD inherently requires a decentralised implementation model, funding responsibilities can be decentralised as well. For example, Brazil requires municipalities to fund ECD; municipalities contribute towards a state fund that distributes these funds equitably. The advantage of a decentralised funding and implementation model is that it often crowds in support from the community (Nepal is one such example), but there remain funding gaps if communities are relied on too heavily. That is why in the case of Brazil, the national government steps in to fill in funding gaps if municipalities are unable to contribute a sufficient amount to the state ECD fund.[51]

These traditional financing mechanisms are often a result of the underlying institutional and political framework driving countries' decision-making. It is also possible to fund ECD by ringfencing a budget for ECD, stipulating a percentage of the budget allocated towards ECD or introducing a tax aimed at raising funds for ECD. The latter has been implemented in Columbia; individuals pay a 3% payroll tax collected in a specific fund that disburses funding directly to ECD providers.[52]

In recent times, various innovative financing models have emerged. The United Kingdom and United States (California, specifically) fund ECD through income from lottery ticket sales, distributed as grants to ECD providers. Sin taxes have led to the Philippines' Amusement and Gaming Corporation providing funding for ECD infrastructure and implementation. Similarly, tax revenues from tobacco in California (United States) have been used to support health and ECD interventions. Conditional cash transfers have been used both to target families that need them most and incentivise school attendance and health visits. Impact bonds, or results-based payment models, are gaining traction in various areas, including ECD. These have been successful in South Africa and the United States, among other places, by ensuring that funders get value for their investments, as measured by the programme's impacts on child outcomes.[53]

Funding and financing options

1. Increase government allocation (1% - 1.8% required)
2. Conditional grants to local government authorities

[51] *(Results for Development, 2016)*
[52] *(Garcia & Matthews, 2012)*
[53] *(Results for Development, 2016)*

3. Cost-sharing with parents according to ability-to-pay
4. Local authorities contribute to a centralised fund and distributed equitably
5. Ringfencing a budget for ECD
6. Stipulate a percentage of the budget to be allocated towards ECD
7. Instate a new tax, eg. payroll or sin tax
8. Implement a results-based financing model

6. Benefits

This section analyses the benefits associated with scenarios 1 and 2. First, Section 6.1 presents survey data findings related to the improvements that can be expected from implementing the programme. Section 6.2 then reviews the empirical findings on ECD. Using selected findings, Section 6.3 presents the estimated benefits of the programme.

6.1 Survey findings

Comparing CBCCs not receiving the School Readiness Initiative to CBCCs part of the School Readiness Initiative indicates how CBCCs operate when they do not receive outside support, and the types of changes associated with a programme like the School Readiness Initiative. Figure 28 shows that more than three-quarters of intervention CBCCs report having trained caregivers, while only half of the non-intervention CBCCs have trained caregivers. Therefore, the programme can afford better quality education to learners by training caregivers.

Figure 28: Percentage of intervention and non-intervention CBCCs with trained caregivers

Note: Respondents were asked: "How many female and male caregivers do you have at this CBCC?", and "How many female and male caregivers are trained?"

6.1.1 Support to the CBCC

Since CBCCs are championed by their respective communities, it was important for the survey to understand the type of support they receive. Table 6 shows that intervention CBCCs are much more likely to receive support from parents, the community and the CBCC committee than non-intervention CBCCs. The differences for types of support from community-based organisations are smaller between intervention and non-intervention CBCCs.

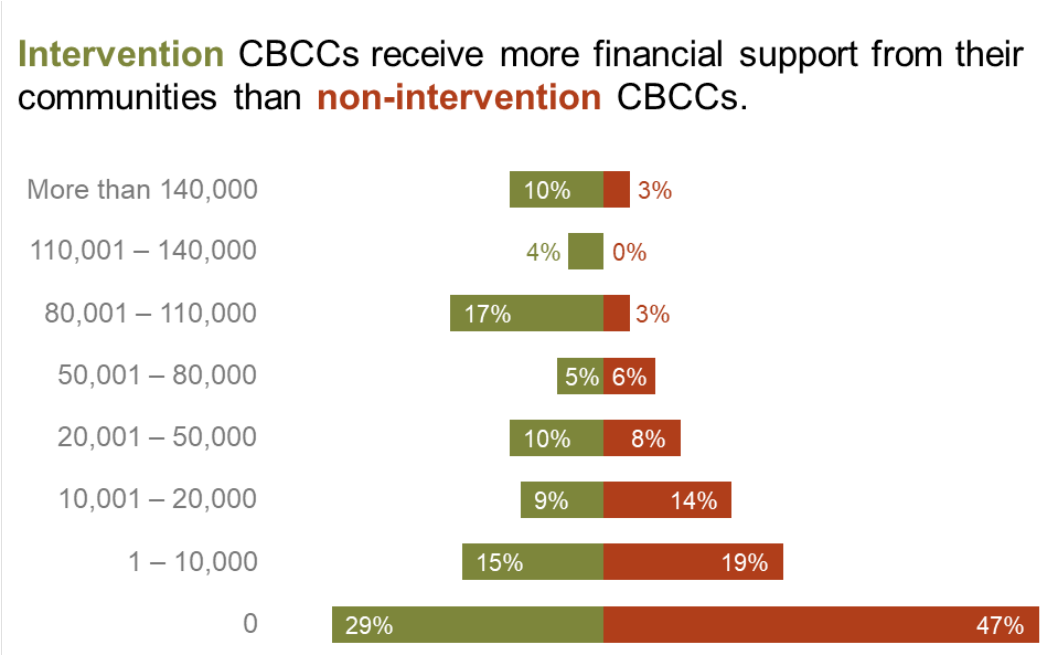
Table 6: Types of support CBCCs receive from stakeholders

Type of support from stakeholders	CBCCs receiving **SRI intervention**	**Non-intervention** CBCCs
Parents		
Bringing children to and from CBCC	94%	78%
Contributing food	70%	56%
Helping with cooking	54%	61%
Helping in the communal garden	43%	14%
Community		
Providing land for CBCC	64%	39%
Providing communal gardens	46%	17%
Helping with construction	83%	42%
Supporting caregivers to work in CBCC	47%	31%
Promoting awareness of the importance of ECD	63%	36%
Providing money for CBCC operations	42%	17%
Community Based Organisation		
Providing land for CBCC	19%	18%
Providing communal gardens	12%	9%
Supporting caregivers to work in CBCC	50%	41%
Providing money for CBCC operations	13%	9%
CBCC Committee		
Monitoring CBCC activities	89%	67%
Management of CBCC	95%	64%
Resolving CBCC issues	90%	42%
Providing monetary support	28%	8%

Overall, we observe that intervention CBCCs receive high levels of support across many aspects. Therefore, the programme is able to mobilise stakeholders to create a better environment for children's development. This is an important finding as stakeholders around non-intervention CBCCs may also be able to provide such support but are not doing so. As such, the programme not only brings in new resources but also creates an environment for existing resources in the community to be leveraged.

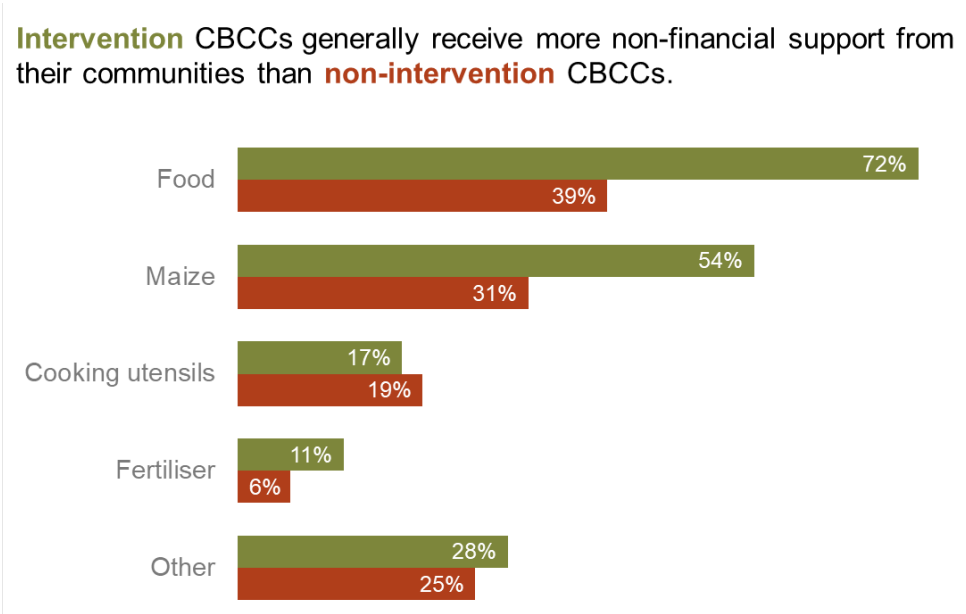
This notion is supported by Figure 29 and Figure 30, which present the financial and non-financial contributions CBCCs receive from the community. These figures show that intervention CBCCs receive more money and resources; food provision by communities is especially higher in intervention CBCCs than non-intervention CBCCs. A better-resourced environment encourages parents to send their children to CBCCs, especially because CBCCs are better equipped to assist children in developing.

Figure 29: Financial support from the community over the past academic year



Note: Respondents were asked: "How much (estimated) money does the community/CBCC committee contribute to this CBCC per academic year?".

Figure 30: Non-financial support from the community



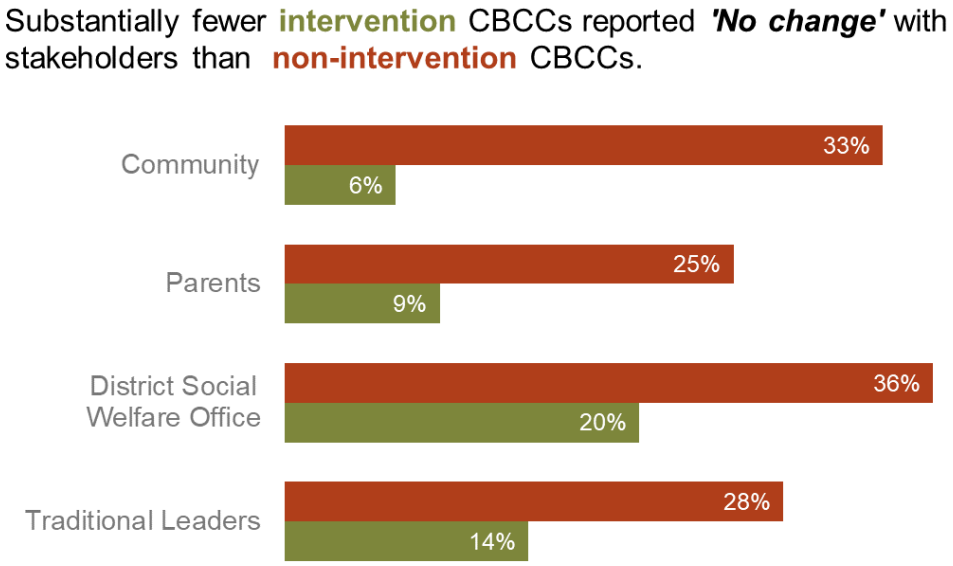
Note: Respondents were asked: "What kind of non-financial contributions does the community/CBCC committee make at this CBCC?".

6.1.2 *Recent changes to the CBCC*

Understanding the recent changes experienced by intervention and non-intervention CBCCs further justifies the programme's ability to improve childhood development outcomes. Figure 31 analyses if the CBCC's relationship changed with certain stakeholders over the past year. Only a small portion of intervention CBCCs report having no change, which is consistent across most stakeholders. The School Readiness Initiative has been able to bring about notable change to the CBCC's relationship with the community and parents, which corresponds with earlier findings of parent and community engagement

Table 7 unpacks these relationships by analysing the types of changes between CBCCs and the different stakeholders over the past year. Across all types of changes, a larger percentage of intervention CBCCs reported positive changes than non-intervention CBCCs. This is especially encouraging for the CBCC's relationship with the community and parents as there appears to be a greater appreciation for ECD. Further, they (community and parents) started increasing their support to the CBCC. Similarly, more than 70% of intervention CBCCs reported assistance from Traditional Leaders in the form of sensitising the community about ECD, developing social norms to support ECD and providing land for the CBCC's operations. These findings show that the programme was able to mobilise stakeholders to help CBCCs in various ways.

Figure 31: Percentage of CBCCs that reported no change in their relationship with stakeholders over the past year



Note: Respondents were asked: "How has the CBCC's relationship with ___ changed over the past year?" Estimates in this graph represent the percentage of CBCCs that reported 'No change'.

Table 7: Types of changes in CBCCs' relationships with stakeholders

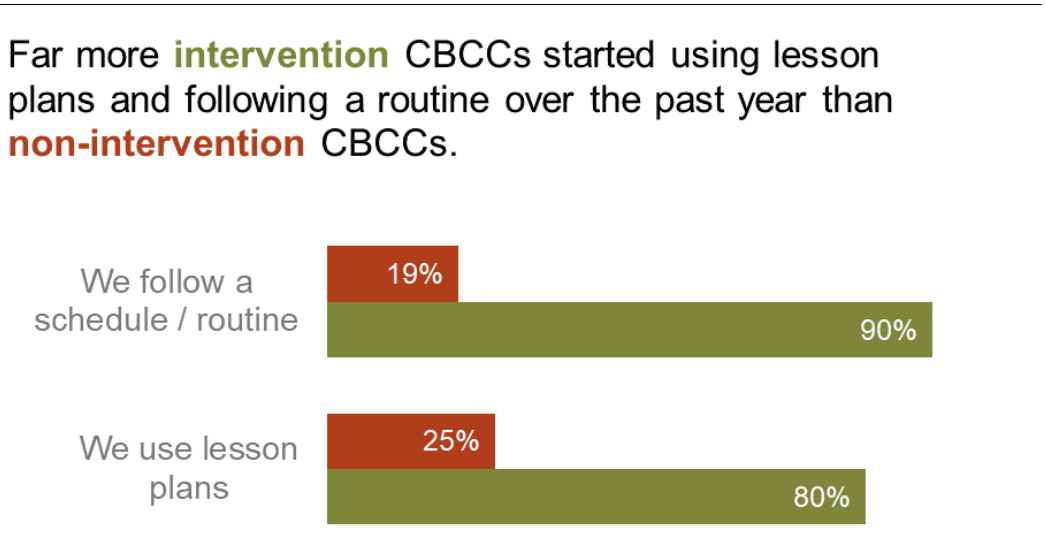
	CBCCs receiving **SRI intervention**	**Non-intervention** CBCCs
Community		
Community has a greater appreciation for ECD	79%	47%
CBCC enjoys greater support from the community	88%	64%
District Social Welfare Office		
CBCC started submitting reports to DSWO	56%	42%
DSWO representative visited the CBCC for monitoring	74%	58%
Parents		
Parents have a greater appreciation for ECD	85%	58%
CBCC enjoys greater support from parents	84%	67%
Traditional Leaders		
TLs helped sensitise the community about the importance of ECD	79%	64%
TLs developed community social norms and bylaws to support ECD	70%	19%
TLs provided land	78%	53%
TLs provided other resources (eg. food)	53%	36%

The survey also assessed the types of changes CBCCs experienced to their daily operations over the past year. Figure 32 shows that 80% of intervention CBCCs started using lesson plans over the past year, and 90% of intervention CBCCs started following a schedule or daily routine. Only a small percentage of non-intervention CBCCs reported these positive changes over the past year, indicating that the School Readiness Initiative brought meaningful changes to how the CBCC operates. These findings demonstrate how the programme can bring about meaningful changes to early childhood educational practices.

Figure 32: Changes in daily operations over the past year

95% of *intervention* CBCCs reported changes in their daily operations over the past year

Only **42%** of *non-intervention* CBCCs reported changes in their daily operations over the past year

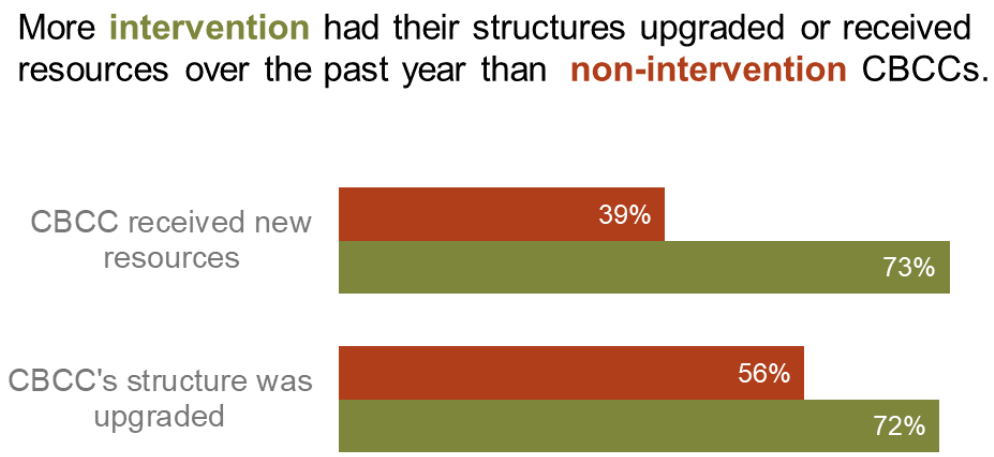


Note: Respondents were asked: "How have the CBCC's operations changed in terms of daily operations in the past year?"

In addition, intervention CBCCs also reported other types of positive changes in the past year. CBCCs part of the School Readiness Initiative were more likely to have upgrades to their structures or to have received new resources, compared to non-

intervention CBBCs, as shown in Figure 33. This further supports the notion that the intervention is associated with a better environment for early childhood development.

Figure 33: CBCC structure upgrades and resources received over the past year



Note: Respondents were asked: "Has there been any upgrades to the CBCC's building (roof, toilet, kitchen, etc)?, and "Has the CBCC received new resources (communal garden, borehole, playground, play materials, learning materials etc)?".

While not presented, the average increase in learner enrolment per non-intervention CBCC was 10, while that for intervention CBCCs was 22. This indicates that by engaging stakeholders, improving the CBCC's resources and providing guidance to the CBCC's operations, the programme could attract more learners. These improvements may have encouraged parents to send their children to CBCCs. This finding shows that achieving greater CBCC coverage requires a holistic approach to ECD.

6.1.3 Pre-primary and transition to standard 1

The final section of the survey aimed to understand how CBCCs are helping children prepare for Standard 1. Table 8 shows that almost all intervention CBCCs have a separate class for pre-primary aged children, use a recommended syllabus for them, have linkages with primary schools and assist and monitor children's' transition to primary school. These activities are rare at non-intervention CBCCs. As such, intervention CBCCs are better placed to provide quality education to learners and facilitate a smooth transition to primary school. This implies that children who attend intervention CBCCs will be more likely to perform better in primary school.

Table 8: Pre-primary and transition to Standard 1 initiatives

Pre-primary and transition to STD 1	CBCCs receiving **SRI intervention**	**Non-intervention** CBCCs
Separate class / area for pre-primary aged children	84%	36%
Uses a recommended syllabus for pre-primary aged children	95%	33%
Linkages between the CBCC and nearby primary schools	99%	36%
Children assisted when transitioning from the CBCC to STD 1	98%	28%
Children monitored when transitioning from the CBCC to STD 1	90%	19%
Thinks education children receive adequately prepares them for STD 1	95%	36%

6.2 Empirical findings

After investigating the types of output-level benefits associated with the programme using primary data, this section looks at empirical evidence to inform outcome-level benefits. There is a substantial body of literature on the benefits of ECD. Hence, there is ample research to draw on to inform the benefits estimation. Although most studies have been conducted in developed countries, there is a growing body of literature in developing country contexts.

The approach for estimating benefits opts to rely on the findings most relevant to Malawi. Since there have been several studies in Malawi recently, only evaluations of Malawian programmes implemented at the CBCC are used to estimate benefits.

6.2.1 Developing country evidence

Although Malawi-specific studies are most salient, it is still useful to summarise findings from other developing countries. Doing so demonstrates that good ECD programmes can reap real benefits and that similar benefits have been observed in various contexts. Table 9 summarises the main findings from various studies conducted in Africa and Latin America, showing a host of immediate and longer-term benefits that accrue to different types of ECD interventions.

Table 9: Developing country evidence for ECD

Country	Intervention type	Impact	Reference
South Africa	Longitudinal analysis of stunted children	Weaker psychosocial outcomes (R-PQD test)	(Casale, et al., 2014)
Burkina Faso	Feeding scheme	Improved weight-for-age and weight-for-height	(Kazianga, et al., 2009)
Tanzania	Feeding scheme	Improved attendance and pass rates	(Chaula, 2015)

Developing countries	Analysis of stunted children	Fewer years of schooling and lower test scores	(Galasso & Wagstaff, 2019)
South Africa	Teacher training	Improved educational performance	(Cilliers, et al., 2019)
Chile	Comprehensive ECD programme	Higher scores in math, reading and social sciences	(Cortázar, 2015)
Mozambique	Comprehensive ECD programme	Improved attendance, enrolment, cognition and school readiness	(Martinez, et al., 2012)
South Africa	Mandatory implementation of Grade R	Higher scores in mathematics and home language	(van der Berg, et al., 2013)
Argentina	Expanded pre-school to poor areas	Higher scores in mathematics and Spanish	(Berlinski, et al., 2009)
Uruguay	Pre-school	More years of schooling completed and less likely to drop our	(Berlinski, et al., 2008)

6.2.2 Malawi evidence

The findings in Table 9 are a prelude to the Malawian findings since similar results have been observed in Malawi. Table 10 summarises the recent studies conducted in Malawi. The detail of the studies is provided below the table.

Table 10: Malawian evidence for ECD

Intervention type	Description of findings	Impact	Reference
Teacher training with group-based parenting education	Higher scores in language & socio-emotional development	MDAT Language scores improved by 0.185 SDs, with 0.071 SE	(Ozler, et al., 2018)
ECD package + nutrition and agriculture intervention	Increases in nutrient intake and in dietary diversity	Dietary diversity score was 0.31 points (10.6%) greater than control.	(Gelli, et al., 2018)
Basic ECD package + Emergent Literacy and Mathematics programme	Intervention had large and positive impact on early learning and development gains (IDELA).	DID estimates: Motor = 15%; Literacy = 13%; Math = 17%; Socio-emotional = 8%	(Phiri, et al., 2016)

Basic ECD package + Interactive Radio Instruction programme	Better outcomes in terms of enrolment, transitioning to primary school and primary school performance.	In the intervention arm, 83% passed their Standard 1 final exam; 73% for control	(Save the Children, 2017)
Comprehensive ECD programme	Better holistic development and academic performance than non-CBCC children	Pre-post scores: Additional percentage of children able to complete physical (5%), cognitive(25%), social(14%) and moral assessment (18%) DID estimates (failure): Std. 1 = -10%; Std. 2 = -11%; Std. 3 = -15%; Std. 4 = -6%; Std.5 = -6%	(Action Aid Malawi, 2021)

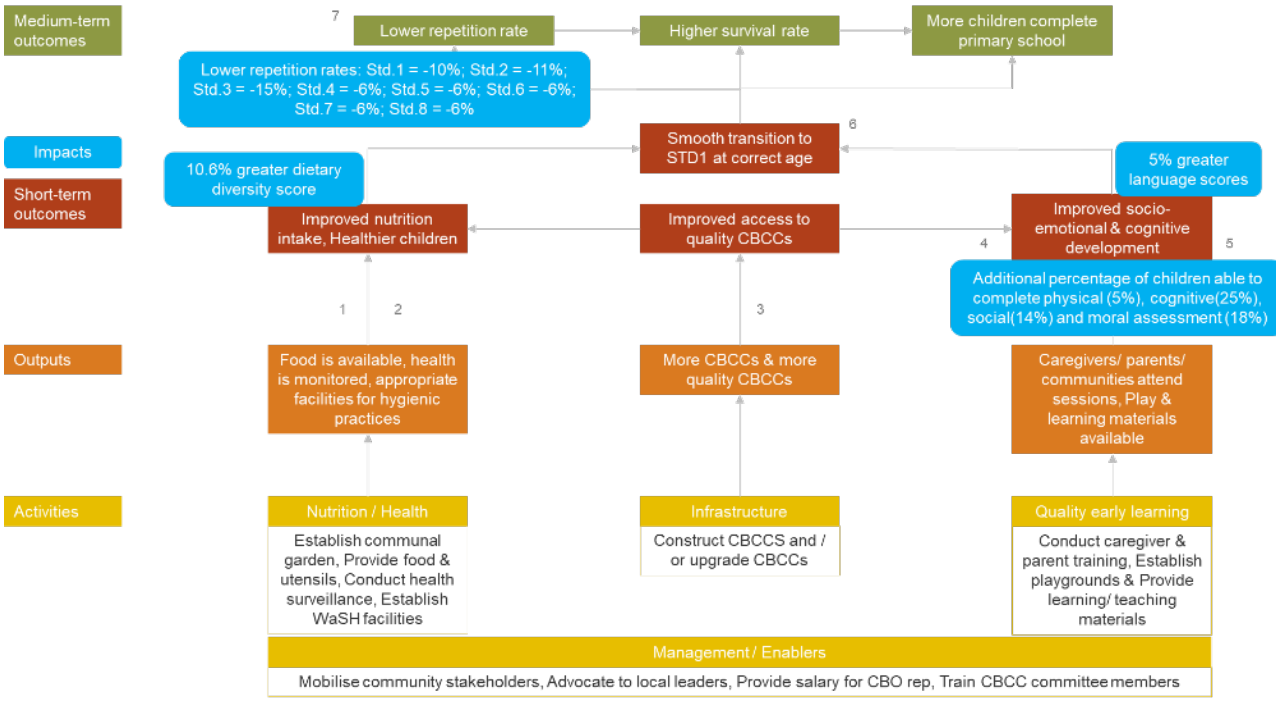
Ozler et al. (2018) is used to estimate the additional portion of children who will score a minimum of 50% on the Malawi Developmental Assessment Tool (MDAT) language assessment. As described in the methodology statement (Section 2.1), this is done by estimating the population distribution and new average of the MDAT language score post-intervention. It is estimated that 61% of children currently score a minimum of 50% on the MDAT language score and that the intervention will increase the average MDAT language score by 5%; this translates to 68% of children receiving the intervention scoring 50% or more on the MDAT language assessment.

Gelli et al. (2018) is used to estimate the additional proportion of the population who will have an adequate Dietary Diversity Score (DDS). This is done in the same way as described above. Currently, it is estimated that 34% of children have an adequate dietary diversity score. Post-intervention, the average dietary diversity score is estimated to increase by 10.6%, translating to 49% of children who receive the programme to have an adequate dietary diversity score.

The two Save the Children programmes – Phiri et al. (2016) and Save the Children (2017) – while not used directly to estimate benefits, back up the findings from the **Action Aid Malawi (2021)** evaluation. The developmental gains in Phiri et al. (2016) and academic performance gains in Save the Children (2017) are somewhat similar to the Action Aid Malawi (2021) benefits and therefore serve as supporting evidence.

Figure 34 applies these benefits within the theory of change framework.

Figure 34: Theory of change with quantitative impact estimates



1. *Outside support during lean seasons*
2. *Functioning remedial pathways*
3. *Infra matched with adequate operation inputs*
4. *Sufficient parent attendance and community support*
5. *Caregivers receive an honorarium*
6. *Collaboration between CBCC & school*
7. *Primary school of reasonable quality*

6.3 Benefits estimation

Having explained where the empirical findings fit into the benefit estimation framework and how the benefits are quantified, this section presents these estimates. Benefits follow from the costs shown in Section 5 for scenarios 1 and 2; all assumptions remain the same. There is no distinction between the sub-scenarios, i.e. we assume the same benefits will be realised irrespective of whether mentors are offered salaries or honorariums.

Sections 6.3.2 - 6.3.3 correspond to the outcomes in Figure 34 which have associated impacts.

6.3.1 Improved nutrition intake, Healthier children

Figure 36 present the dietary diversity score impact estimates for scenarios 1 and 2, respectively. A dietary diversity score of 4 or higher indicates that a child is eating a diet containing at least four food groups. This is considered the minimum score for an adequately diverse diet. Currently, it is estimated that only 25% of children have a dietary diversity score of 4, which is extremely concerning. If the programme is

implemented, many additional children will have a dietary diversity score of 4 or more. After achieving full coverage at year 10, the programme would increase the percentage of children with an adequate dietary diversity score by 17 percentage points, from 25% to 42%, after accounting for population growth. This percentage estimate is the same for scenarios 1 and 2 since the total number of 3 – 5-year-olds is almost equally distributed by age.

Figure 35: Recommended scenario – Dietary Diversity Score benefits

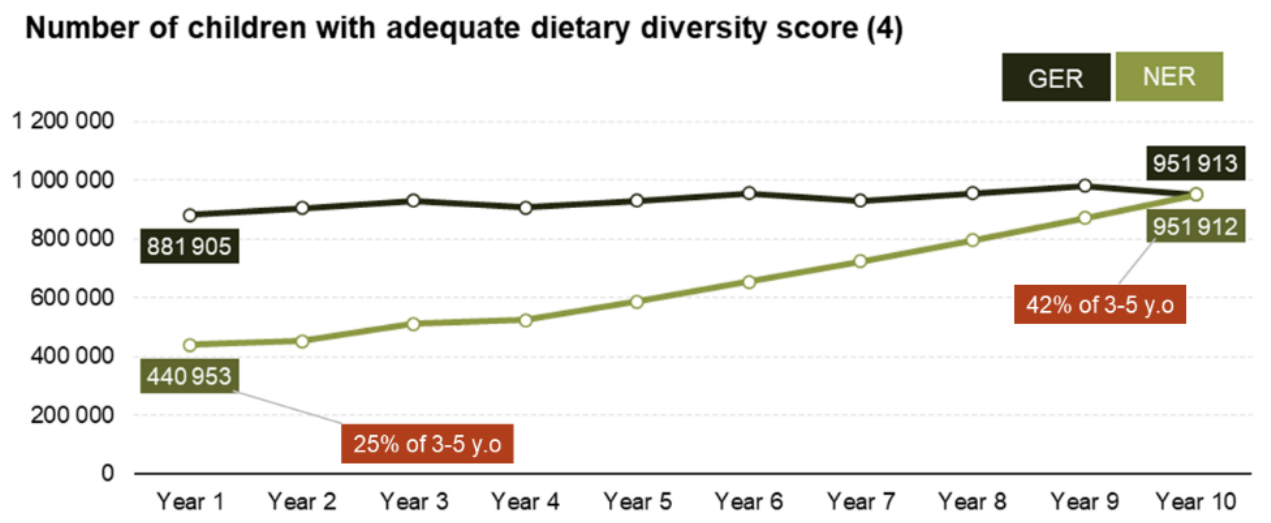
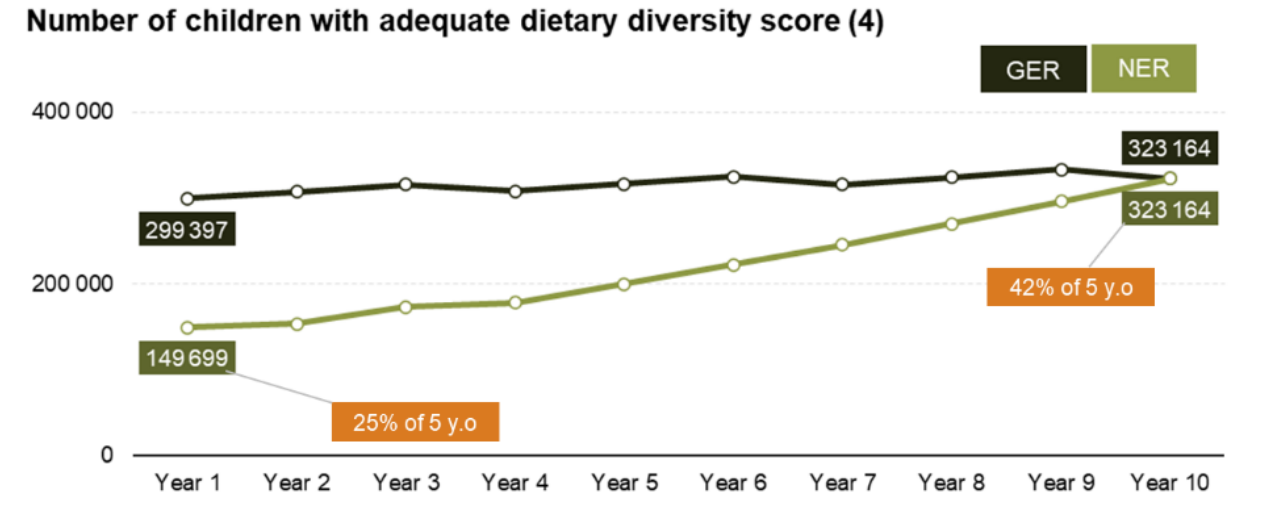


Figure 36: SDG 4.2 scenario – Dietary Diversity Score benefits



6.3.2 Improved socio-emotional and cognitive development

Figure 37 analyses the impact of the programme on MDAT languages performance for scenario 1. The figure shows the number of children who achieve at least 50% on the MDAT language assessment. Currently, it is estimated that only 34% of children

achieve at least 50% on the MDAT language assessment. After attaining full coverage in year 10, this is estimated to increase to 57% of the 3 – 5-year-old population.

Figure 37: Recommended scenario – Malawi Development Assessment Tool language score benefits

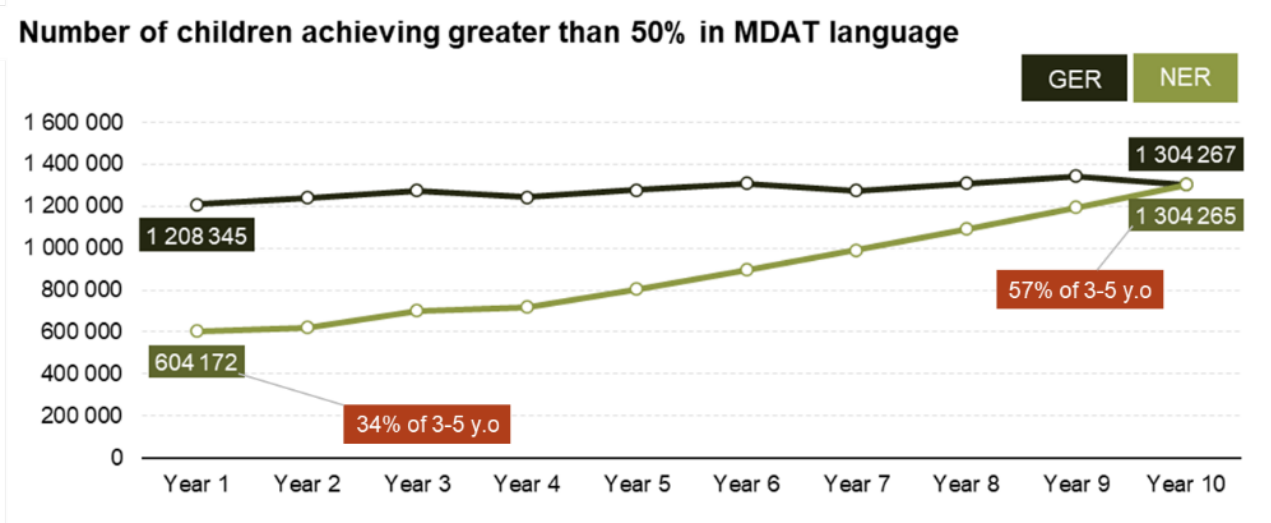
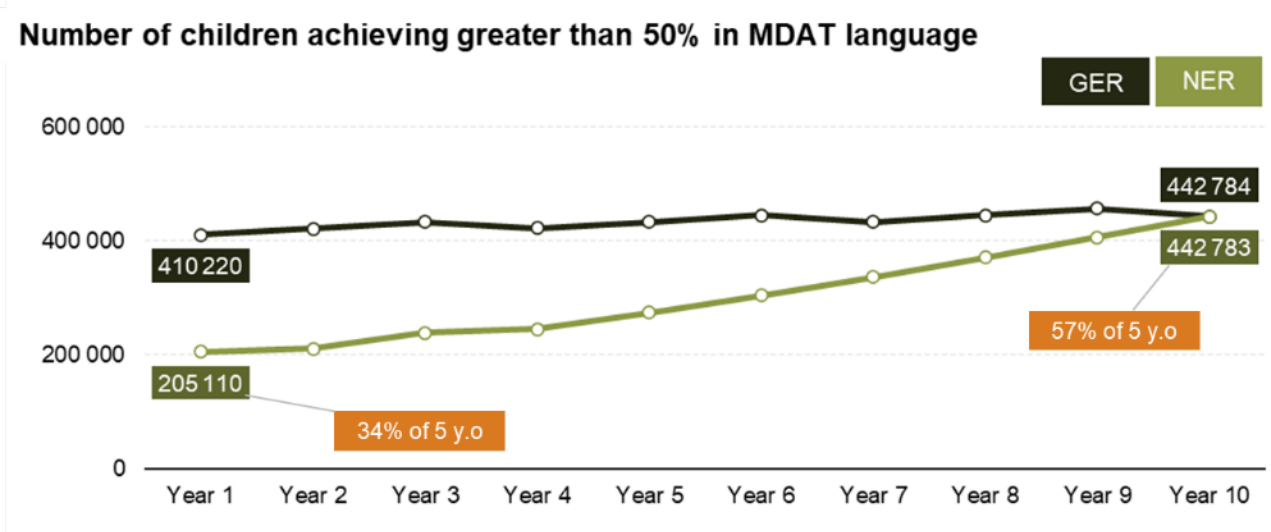


Figure 38 presents the corresponding estimates for scenario 2. Over the ten-year period, the number of 5-year-old children achieving at least 50% on the MDAT language assessment will more than double, increasing by approximately 237,000 children.

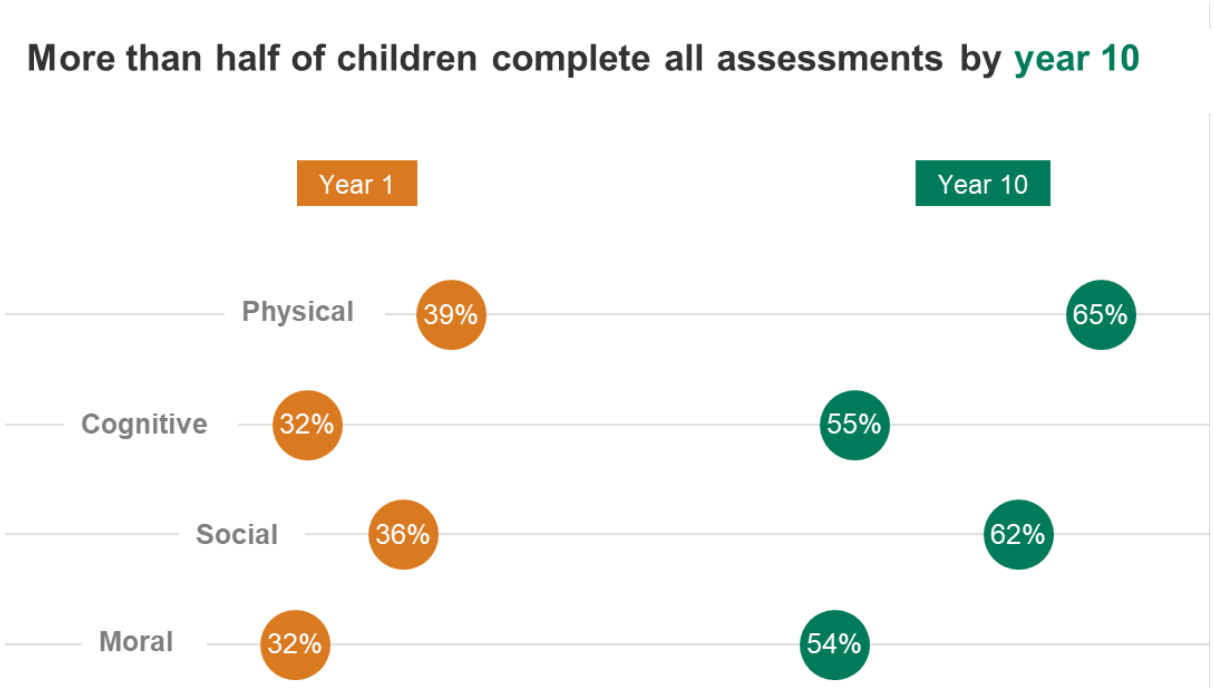
Figure 38: SDG 4.2 scenario – Malawi Development Assessment Tool language score benefits



The final set of short-term benefits are presented in Figure 39. The outcome of the physical, cognitive, social and moral assessments provide a holistic picture of a child's

development before entering primary school.[54] For brevity, only the population percentages are presented. As can be observed from the figure, there are notable increases in the child population that can complete each developmental assessment. These percentages apply to both scenarios 1 and 2, i.e. the percentages are the same for both the 3 – 5-year-old population and the 5-year-old population alone.

Figure 39: Percentage able to complete Child Steps developmental assessments (applicable to scenarios 1 and 2)



6.3.3 *Lower repetition rate*

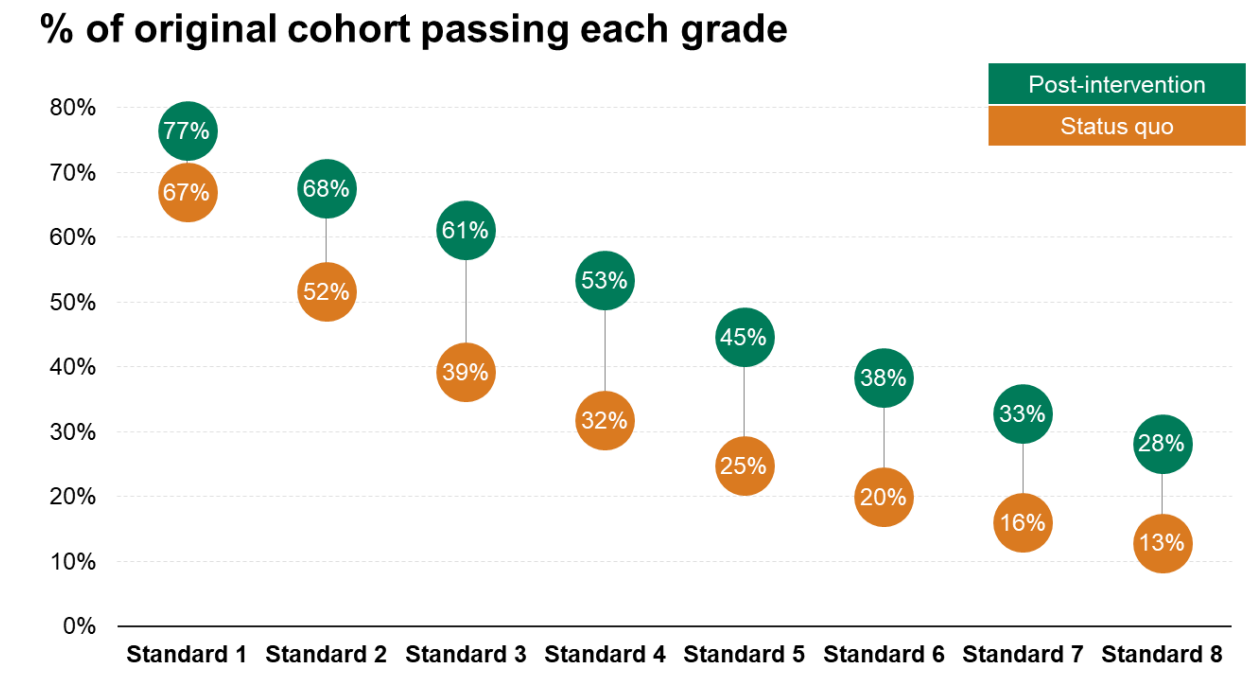
The programme is also associated with benefits that extend to primary school. A group of CBCC learners was followed through most primary school grades and compared to learners who did not attend CBCC. Learners who completed CBCC were much more likely to pass their final examinations and even score higher marks.

Figure 40 models the number of children passing each grade the first time, expressed as a percentage of the original cohort who entered primary school. The status quo is dire. Only 13% of children entering primary school pass in the minimum time. Implementing the programme has the potential to more than double this percentage to 28%. The programme enabling fewer failures in primary school and more children passing primary school in the minimum time will bring about significant savings in the

[54] *The Roger Federer Foundation developed this assessment tool, called Child Steps, which is used for ongoing assessment of children. For more inforormation, see: https://rogerfedererfoundation.org/publications/early-learning-kiosk*

education sector. In addition, there will also be fewer teachers per learner due to a lower repetition rate.

Figure 40: Reduced failure rate (applicable to scenarios 1 and 2)



7. Summary of findings and conclusion

Figure 41 summarises the costs and benefits presented in the previous section.

Figure 41: Summary of costs and benefits

Costs		Benefits
MK 406 billion (USD 501 million), total cost over ten years for 3 – 5-year-olds. Annual cost of approximately MK 40 billion. Requires average increase of annual ECD budget by 112% **MK 257 billion (USD 317 million)**, total cost over ten years for 5-year-olds only Annual cost of approximately MK 25 billion. Requires average increase of annual ECD budget by 34% ****Current ECD budget is 85% donor funded and is much higher than usual. Cost estimates are in real terms (2021 prices).*		**Percentage of population** (either 3 – 5-years-old or 5-years-old only): • Adequate diet: 25% to 42% • 50% on MDAT language: 34% to 57% • Physical assessment: 39% to 65% • Cognitive assessment: 32% to 55% • Social assessment: 36% to 62% • Moral assessment: 32% to 64% Percentage of a cohort completing primary school in the minimum time: 13% to 28%

This report aimed to make an investment case for ECD in Malawi. By estimating the costs and benefits of a comprehensive ECD programme, the findings from this research can be used to inform the GoM's decisions around ECD in the future. The benefit estimation approach was moderate by design to not overstate the potential benefits from ECD. However, literature from outside of Malawi makes note of various other benefits extending into the long term that can create a virtuous cycle. As such, the GoM is urged to continue with its efforts in enhancing the quality and coverage of ECD in Malawi. In the words of Nobel Laureate James Heckman: "*Early childhood development is a smart investment. The earlier the investment, the greater the return*".

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Tel +27 (0)12 362 0024 | +27 (0)12 362 0210
Email contact@dnaeconomics.com | www.dnaeconomics.com
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Directors B Cloete, E Masilela, Y Ramkolowan, MS Stern. Registration Nº. 2001/023453/07