



The cost of scaling up quality early childhood education in Liberia

Liberia has expanded access to early childhood education, but quality has not kept up.

Increased demand for early childhood education (ECE) in Liberia has resulted in the number of students enrolled in ECE rising from a gross enrolment ratio (GER) of 38% to 116% between 1981 and 2015. The quality of ECE instruction is low. In our sample only 17% of pre-primary teachers use a curriculum, 80% of pre-primary teachers have no certificates and 49% of principals report teacher absenteeism as a problem.

According to the Education Sector Plan (ESP), ECE is one of the government's most important development priorities. However, ECE's share of the total government budget is approximately 1.4%.

The total budget for education, which stands at approximately 12% - 13% of the total budget, is well under the minimum targets set in the ESP 2010-20 and the Global Partnership for Education minimum benchmark, both at 20%. Furthermore, the bulk of funding allotted to the MoE goes towards salaries (between 86-94% between 2012-2015), leaving little remaining for capital investment. ECE as a proportion of the education budget has remained constant from 2012 - 2014.

Summary of findings:

- The returns in education in Liberia are among the highest in the world, and the cost of ECE provision is a third of the cost of primary school.
- Parents spend \$40 on ECE fees each year on average (and 40.9% of Liberians live on less than \$1.90 a day).
- Schools in Liberia spend \$24 per pupil (pp) to provide existing levels of quality.
- Better quality ECE will cost \$70pp and a preferable standard costs \$223pp.

The Early Learning Partnership (ELP) Systems Research programme provides countries with action research to promote quality, equitable early learning at scale. The program is led by Oxford Policy Management, managed by the World Bank, and supported by the UK Department for International Development (DFID). This brief presents research and policy options to help inform government action on the costing of scaling quality ECE in Liberia. Key elements of Liberia's education system were analyzed against benchmarks, generating specific policy recommendations to address the challenge.

The research reported here was conducted in schools in 8 counties in Liberia, including 5 of the most disadvantaged: Bomi, Grand Kru, Maryland, Montserrado, Nimba, Rivercess, River Gee, and Sinoe. 490 student assessments, 478 parent interviews (of sampled children), 50 classroom observations, 50 principal interviews, and 50 teacher interviews were conducted.

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ECE in Liberia

Liberia has made gains in expanding access to ECE, but quality has not kept up, as child assessments have demonstrated concerning rates of learning achievement.

ECE quality is poor because few targets on quality are set, information on performance is not collected, resources allocated to quality improvement are limited, and there are few rewards/consequences for performance. Only 17% of teachers use a curriculum, suggesting that school systems do not have meaningful targets for measuring quality. ECE is heavily under-resourced with 80% of pre-primary teachers having no certificates. 49% of principals report teacher absenteeism as a problem, and in 74% of cases, the only action taken to address this was to have a discussion with the teacher.

Overage enrolment is one of the most pressing challenges for ECE in Liberia. While policy indicates that children should be between three and five years old, in practice, 52% of children in ECE are aged seven or older, with 5% being eleven or older. By entering ECE late, children miss the early-years window for cognitive development and are most likely to face academic, social and disciplinary challenges.

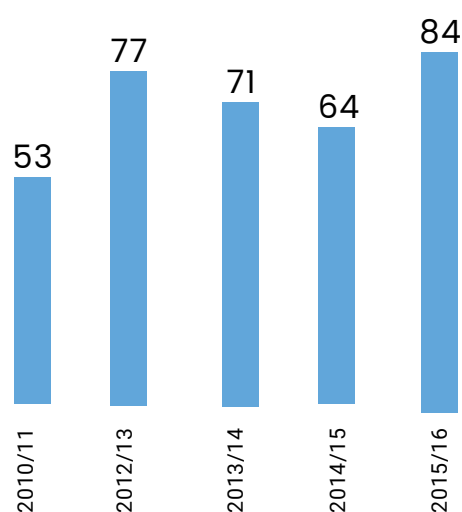
A policy on the correct age for entry into ECE exists, and parents and teachers are aware of this age. However, limited policy implementation mean that schools are not sanctioned for administering admission tests which delay children's entry into ECE. Furthermore, unaffordable ECE fees encourage parents to delay enrolment, and Accelerated Learning Programme meant to help older children catch up are under-resourced.

While the share of ECE expenditure of the overall education spending has remained constant at 11%, overall spending has been relatively low at 12-13% of the total public budget.

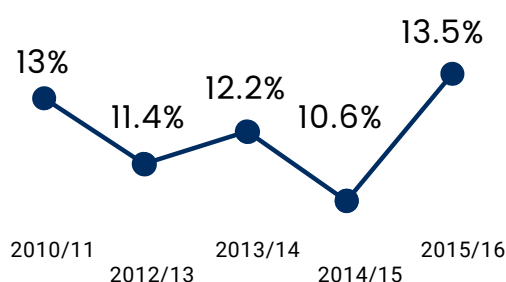
This is under the minimum targets set in the Education Sector Plan 2010-20 and the Global Partnership for Education minimum benchmark, both at 20%.

Furthermore, the bulk of funding allotted to the MoE goes towards salaries (between 86-94% between 2012-2015), leaving little remaining for capital investment.

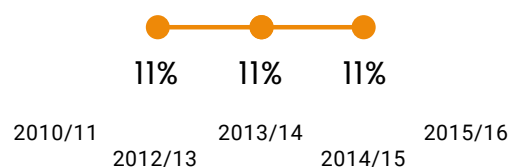
Education Expenditure (USD Millions)



Education expenditure as proportion of total budget



ECE as proportion of education budget



Source: Education Sector Analysis 2016

Government commitment to ECE

Literacy

is defined by the MOE as 'the knowledge and skills that lay the foundation for reading and writing'

Early mathematics

which 'help children to connect ideas, develop logical and abstract thinking and question, analyse, and understand the world around them'



Socio-emotional development

which is necessary 'to foster secure attachment with adults, maintain healthy relationships and regulate one's behaviour and emotions'

Executive function

refers to cognitive skills (such as working memory) that support children's ability to learn and coordinate goal-directed behaviour and activities.

The Finance Minister, Samuel D. Tweah Jr., has described education as the sector most significant to the quality of livelihoods, and emphasized that human capital development was of immense priority to the government of President Weah. Further, the Minister of Education, Prof. Ansu D. Sonil has said that 'education is among the most urgent' challenges on Liberia's development agenda. Acting on these beliefs, the MOE, through their Bureau of ECE began their National Early Childhood Development Advocacy and Communication Strategy campaign in 2017.

While Liberia has included ECE as an important sub-sector in the 2010-2020 Education Sector Plan, the government made an even greater push by launching the 'Getting the Best in Education Sector Plan (2017-2021)'. Under the plan, the Early Childhood Education Program aims to 'lay the foundations for children's learning with ECE' with the strategy to 'improve access to quality ECE.' In particular, four components are outlined:

Build additional ECE school infrastructure in areas of greatest need.

ECE public awareness campaign and outreach to families about the value of ECE and good parenting skills.

Roll out ECE training for teachers through Rural Teacher Training Institutes, colleges and universities.

Improve the quality of ECE provision for children aged 3- to 5-years old.

The plan is supported by a \$11.9m Global Partnership for Education grant implemented with the World Bank's support, of which a large part focuses on ECE.

Education is clearly a priority for the Government of Liberia, with the formation the Bureau for Early Childhood Education in 2011 and the launch in April 2012 of the National Inter-sectorial Policy on Early Childhood Development (NIPECD). The curriculum emphasises learning through play and the development of socio-emotional skills. Despite these advances, Liberia's ECD system remains weak.

Costs of providing better quality ECE

ECE is developing in Liberia, with the government working to implement a more ambitious form and scale of provision than exists now. There has to date been no budget dedicated to ECE provision, so schools have been making do with the resources they have for the primary grades, and stretching these to cover large groups of ECE students as well. To move forward with improvements to ECE and to support efforts to attract a budget for the provision of ECE from the Ministry of Finance, it is important to understand what costs such a budget would need to cover. We report findings based on detailed cost data collected from principals and parents.

The tables below describe the best-case scenario based on applying the new national curriculum with 90 children in an ECE section (three classrooms of 30 children per grade, each with one teacher). It also calculates savings if certain features are omitted or already provided by the existing school.

Table 1: Costing for ideal ECE section (90 pupils) with cost-reducing options

Start-up Costs	USD	Running costs (yearly)	USD	unit
Classroom construction	6,065	Head teacher salary	N/A	
Classroom furniture (excl. pupil furniture)	509	Teacher salaries	3,708	
Classroom furniture (pupil chair/tables) ●	1,162	Cook/cleaner's salary ◆	1,039	
Toilet construction ■	1,134	Refresher training course	625	
Water (borehole construction) ■	850	Classroom writing materials	233	
Kitchen construction ◆	952	Cleaning materials	44	
Kitchen equipment ◆	248	Pupil stationery ●	1,296	
Teaching equipment (start-up)	530	Food supply ▼	11,481	
Teacher training	7,500	Maintenance (building)	571	
TOTAL START-UP COSTS	18,950	Maintenance (classroom fittings)	114	
■ savings if water/toilet already provided	1,984	Maintenance (toilet) ■	113	
◆ savings if kitchen/cook already provided	1,200	Maintenance (borehole) ■	85	
● savings exclude student chairs/tables	1,162	Maintenance (kitchen) ◆	95	
		Equipment replacement	573	
		Equipment replacement (kitchen only) ◆	72	
		TOTAL RUNNING COSTS	20,050	222.78
		■ savings if water/toilet already provided	198	2.20
		◆ savings if kitchen/cook already provided	1,206	13.40
		▼ saving if not providing food	11,481	127.57
		● savings if not providing pupil stationery	1,296	14.40

The two main cost categories are start-up costs (building construction, classroom furniture and equipment, and teacher training) and yearly running costs (salaries, refresher training courses, classroom writing/cleaning materials, pupil stationery and food, maintenance and equipment replacement costs). Furthermore, a key assumption underlying these costs is that overage children are not present in ECE and are therefore being catered elsewhere in accelerated or catch-up programmes.

According to Table 1, the cost for an ideal ECE section would be \$18 950 in start-up fees, and \$20 050 in yearly running cost. Currently, ECE classrooms in Liberia are severely under-resourced, and it is recognised that providing all of the resources costed for here would mean an enormous change. At the same time, given fiscal constraints, some difficult choices may need to be made.

The following are issues to consider when deciding on budget, with various scenarios costed in Table 2:

Providing daily lunches

Food supply adds a large cost to yearly running expenditure (an additional \$128 per pupil), and not providing lunch would reduce overall yearly unit cost (including kitchen maintenance costs) to \$81. However, providing lunch would be a strong incentive for ECE enrolment.

Providing pupils with basic stationery

The yearly cost for a pupil's stationery is \$14. If parents provided this for their children, \$1 296 for 90 students could be saved. However, this might not be possible for many families and could deter parents from enrolling their children in ECE.

Number of classes

The ideal ECE section would have separate classrooms for the three grades. However, a single multi-grade classroom of 30 pupils and one teacher would reduce costs.

Unit start-up costs will higher by \$22 for single classrooms, but any cost-savings in yearly running cost will be across the three classroom options.

Head teacher salaries

If the ECE section is added to an existing school, it is assumed that the head teacher of the school would also oversee the ECE section, which is why no cost is included for this. The national curriculum also calls for classroom assistants, however they are not included in the costing as this is typically hard for schools to afford.

Additional facilities

If the ECE section is added to an existing school with sufficient toilet, water, and kitchen facilities, then these start-up costs can be saved. However, related maintenance costs should to be included to cover the additional wear-and-tear from greater use.

Other considerations

If listed inputs cannot be supplied and that the Ministry of Education will need to be creative to further reduce save costs. For example, if it is acceptable for small children to be seated on mats, not purchasing and painting furniture would reduce start-up costs by \$1 162.

Table 2: Cost comparison for various ECE scenarios

Number of classrooms	Pupil Stationery	Food	Kitchen	Start-up cost		Yearly running cost	
				(total)	(unit cost)	(total)	(unit cost)
3	✓	✓	✓	18,950	210.55	20,050	222.78
3	✓	✓	X	17,750	197.22	18,844	209.38
3	X	✓	✓	17,750	197.22	18,754	208.38
3	✓	X	X	17,750	197.22	7,363	81.81
3	X	X	X	17,750	197.22	6,067	67.41
1	✓	✓	X	6,574	219.13	6,368	212.27
1	✓	X	X	6,574	219.13	2,540	84.68
1	X	X	X	6,574	219.13	2,108	70.28

As Table 2 describes, there are a number of variations in how to cost a new ECE section, depending on a number of factors. Ideally, daily lunches and personal stationery for pupils are included (for a yearly unit running cost of \$223 with a new kitchen, \$209 without), but can be forgone to reduce costs to a minimum of \$67 for three classrooms and \$70 for one classroom.

Opportunity for action



Liberia's ambitions and needs at the pre-primary level are not met by existing financial resources. Pre-primary expansion is constrained by the cost of construction and payment of teachers. This represents a window of opportunity for the Ministry of Finance and its partners, because:

There is promising evidence of school readiness programmes which work, and programmes that have worked in similar contexts.

Studies have demonstrated that socio-emotional knowledge early on has a critical role in improving children's performance and life-long learning. Furthermore, quality early education has been found to reduce economic and social inequalities². Research from the neighbouring country Sierra Leone suggests that countries influenced by 'indigenous tradition, postcolonial history, post-conflict recovery can neither ignore early childhood education nor relegate it to the lower end of policy-making in the quest for economic development and national stability.' Liberia is also experimenting with approaches to ECD and evidence from pilots is forthcoming.

ECE in Liberia can be scaled up cheaply.

Unit costs per child in 2015 (including capital and recurrent expenditures) stood at \$24⁴. Unit costs at the pre-primary level are 3 times cheaper than primary level unit costs, around 3.5 times cheaper than secondary level unit costs and 46 times cheaper than vocational training unit costs. Furthermore, it is generally agreed that returns to early interventions is significantly higher than later intervention, as 'skill begets skill and early skill makes later skill acquisition easier'⁵.

An annual investment of \$36m in pre-primary would be sufficient to move the Ministry of Education into a high-investment scenario⁶

This investment would fund yearly recurrent expenditure (salaries and classroom materials) and capital upgrading and expansion (for equipment and building requirements). An upper bound would be estimated at \$120m per year which would provide children with further benefits in the form of lunches and stationary. \$17.7m would be sufficient to fund salaries for all pre-primary teachers for a year.

Returns to education in Liberia are amongst the highest in the world.

A study of private returns to schooling was carried out in 139 countries⁷. Based on what individuals are expected to earn, against costs for attending school (including opportunity costs), Liberia has the profile with one of the highest returns to education. The study also confirms that early interventions are higher, with returns to primary levels at 14.4% compared to 10.6% for secondary levels. If an ECD program can improve performance in the early grades, it can increase the probability of high school graduation with attendant improvements in future wages and employment opportunities. Even a few years of early schooling, it appears, can substantially increase the economic value of an individual's skills⁸.

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Notes

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2. Heckman, James J. (2006). Investing in Disadvantaged Young Children is an Economically Efficient Policy. Paper presented at the Committee for Economic Development, New York.
3. Agbenyega, J. S., Athinodorou, E., & Monk, H. (2018). Rising from the "Ashes": Quality Early Childhood Education as a Panacea for National Development in Sierra Leone. In M. Flear, & B. van Oers (Eds.), *International Handbook of Early Childhood Education* (Vol. 1, pp. 691-705). Springer.
4. Liberia Education Sector Analysis.
5. Heckman (2006).
6. Calculation using 2015 enrolment figures from Liberia Education Sector Analysis and costing figures mentioned in this report.
7. Montenegro, C. E., & Patrinos, H. A. (2014). Comparable estimates of returns to schooling around the world. The World Bank.
8. Van der Gaag, J; & Tan, J.P (1998). The benefits of early childhood development program: An Economic Analysis. Washington, DC: World Bank.

Note on 'Education expenditure':

Figures for the share of funding allocated to ECE are most likely estimated and are inaccurate. As teachers teaching pre-primary tend to be primary teachers re-allocated to ECE without the appropriate certifications, actual budget shares for ECE are most likely considerably less if they exist at all.

Cost on 'Cost comparison':

Classroom options are calculated using similar but different figures than shown in Table 1. They are close to but not exactly the equivalent to one third of the costs for the 3 classroom option, as some options that can be shared between 3 classrooms still have to be bought in full for one classroom. All options assume additional water and toilet facilities are needed (total start-up cost of USD 1984) and that pupil chairs and tables are needed (total start-up cost of USD 1162).