Centre for the Study of the Economies of Africa

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A Cost-Effectiveness Analysis of School Feeding and Education Assistance Programs in Nigeria

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OUTLINE

- Key Message
- Summary and Conclusion
- Introduction & Programs Background
- Methodology
- Results
- Recommendations

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KEY MESSAGE

Knowledge about the concept and application of cost-effectiveness analysis can help policymakers make informed choices about programs that can improve the lives of the citizens

SUMMARY AND CONCLUSION

- This cost-effectiveness analysis focuses on two education interventions in Nigeria:
  - Education Assistance (EA)
  - Home Grown School Feeding and Health (HGSF & H)

Main findings

- The EA programme has a lower cost per beneficiary and higher effectiveness value
- The EA programme is more cost-effective (6 times) than the HGSF&H

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INTRODUCTION

- Increasing access to basic education is a priority for policy makers
- Low school enrollment is a big problem in Nigeria, especially in the North, and stands in the way of the Education for All (EfA) program and education MDG
- Enrollment can be increased using several interventions, but for this analysis, we focus on: EA and HGSF&H

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BACKGROUND OF HGSF&H PROGRAM

- The objective was to increase enrollment and performance of pupils in rural communities

- It was introduced in some Nigerian States including FCT in 2005, and recorded significant success in terms of increased school enrollment

- The program was suspended in FCT in 2008 due to funding constraints

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BACKGROUND OF EA PROGRAM

- Launched by the Federal Capital Territory Administration in 2007, with the objective of improving enrollment and quality of education at all levels.

- The scholarship included provision of school materials for students across the six area councils of FCT.

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METHODOLOGY

- Cost Analysis
- Effectiveness Measures
- Cost Effectiveness Ratio (CER)
- Sensitivity Analysis
- Data Sources

COST - Items

- HGSF&H Program
  - Personnel – Desk Officers and Cooks
  - Facilities – School Kitchen
  - Materials – Cooking Utensils
  - Workshop Mobilization and Advocacy.

- EA Program
  - Personnel – Supervisors
  - Materials – School Uniforms, Sandals, School Bags, Textbooks and Instructional Materials

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EFFECTIVENESS MEASURES

- The effectiveness measure is the probable impact of the interventions

- The probable impact is derived by multiplying the probability of correct implementation (PCI) with the estimated achievements in test scores (ATS) for each intervention

COST EFFECTIVENESS RATIO

- CER is derived by dividing the incremental cost of each program by the probable impact (effectiveness)

- The program with the lower CER is considered to be more cost-effective

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SENSITIVITY ANALYSIS

- The assumptions demands that sensitivity analysis be conducted
- One-way and multi-way sensitivity analyses to determine the robustness of the estimates and parameters

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DATA SOURCES

- National Bureau of Statistics , FCT UBEB, FCT Scholarship Board, Universal Basic Education Commission, Federal Ministry of Education

Estimates of incremental cost (in NGN) of HGSF&H and EA programmes

Intervention	Total number of pupils	Intervention cost	Unit cost	Average cost of primary education	Unit cost of primary education with intervention	Incremental cost	Incremental cost (%)
Home Grown School Feeding and Health	81,547	665,639,68	8,627.65	22,215.54	29,518.49	7,302.95	32.87
Education Assistance	6,063	30,315,000	5,000	22,215.54	24,563.69	2,348.15	10.57

INCREMENTAL COST

- The introduction of HGSF&H resulted in an incremental cost of about 32.87% of the average cost of primary education (before the interventions)
- The incremental cost for HGSF&H is higher than the incremental cost for the *EA* program – 10.57%
- These cost figures do not necessarily suggest how cost effective the *EA* program is relative to the HGSF&H programme

Estimates of the CERs of HSGF&H and EA programs

Intervention	X - Estimated increase in achievement (%)	Y - Probability of adequate implementation (%)	XY - Probable impact (%)	Z - Incremental cost (%)	Z/XY – CERs	
					(%)	(NGN)[a]
Home Grown School Feeding & Health	16.7	18.1	3.02	32.87	10.88	2,417.09
Education Assistance	14.4	41.0	5.9	10.57	1.79	397.66

$$CER = \frac{Z}{XY} = \frac{\cos t}{effectiven \quad ess}$$

[a]: *2,417.09 = 10.88%*22,215.54 and 397.66 = 1.79%*22,215.54*

Estimates of the CERs of HSGF&H and EA programs

- CER of EA program is NGN397.66 per student repetition averted
  - Relatively lower than the NGN2,417.09 estimated for the HSGF&H program

- The EA program is more cost-effective than the HGSF&H program.

ONE-WAY SENSITIVITY ANALYSIS

PARAMETERS	BASE CASE CERS		±30% CHANGES IN PARAMETERS	
	EA	HGSF	EA	HGSF
PC	1.79	10.88	1.82	8.32
COI	1.79	10.88	2.91	7.45
PI	1.79	10.88	2.56	7.55

MULTI–WAY SENSITIVITY ANALYSIS

PARAMETERS	BASE CASE CERS		±30% CHANGES IN PARAMETERS	
	EA	HGSF	EA	HGSF
PC & COI	1.79	10.88	2.93	5.96
PC & PI	1.79	10.88	2.59	6.40
COI & PI	1.79	10.88	4.16	5.73
COI, PC & PI	1.79	10.88	4.19	4.58

End

Thank You!

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