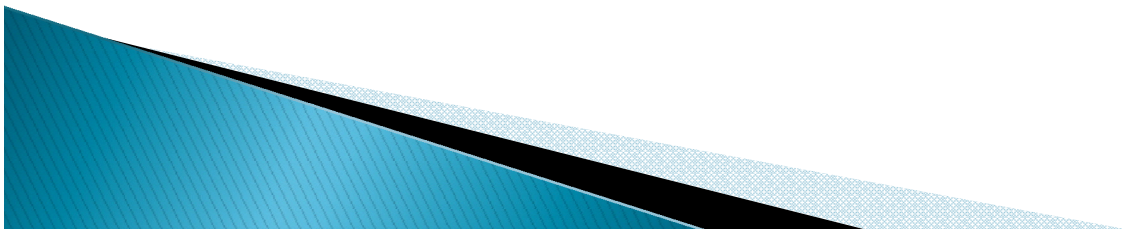




4<sup>th</sup> CSEA Economic Policy and Fiscal Strategy Seminar  
December 11, 2012

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

*Dr. Ebere Uneze*



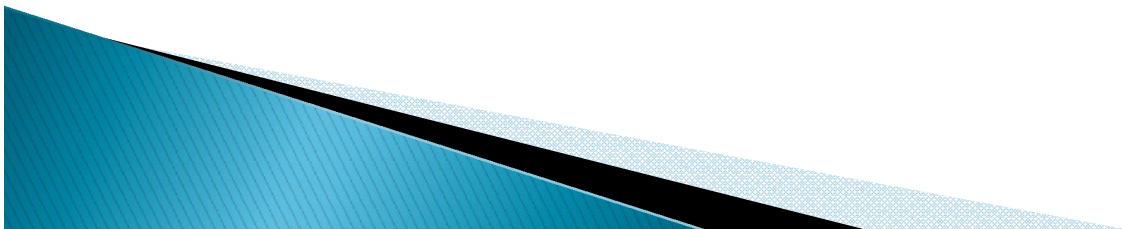
## OUTLINE

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



## 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*

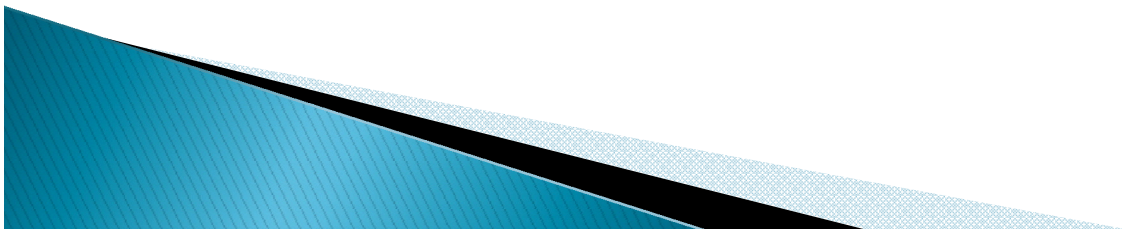


## SUMMARY AND CONCLUSION

- 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



## 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 HGSE&H

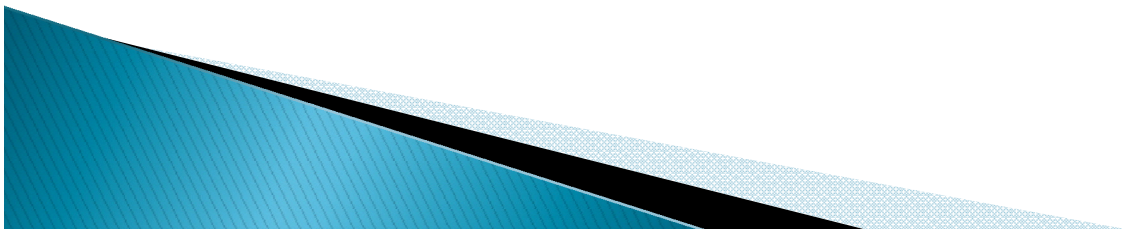
## BACKGROUND OF HGSF&H PROGRAM

- ❑ 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



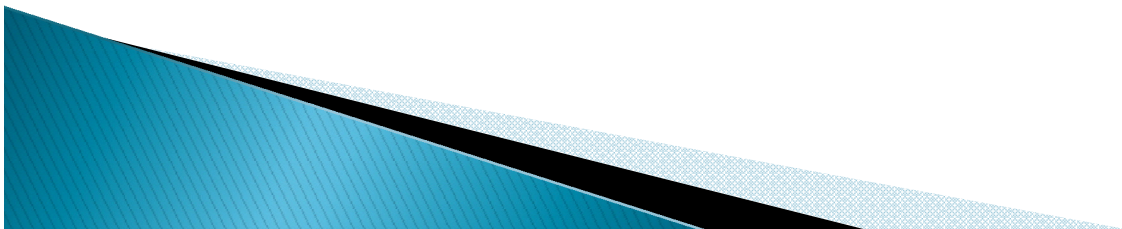
## BACKGROUND OF EA PROGRAM

- 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.



## METHODOLOGY

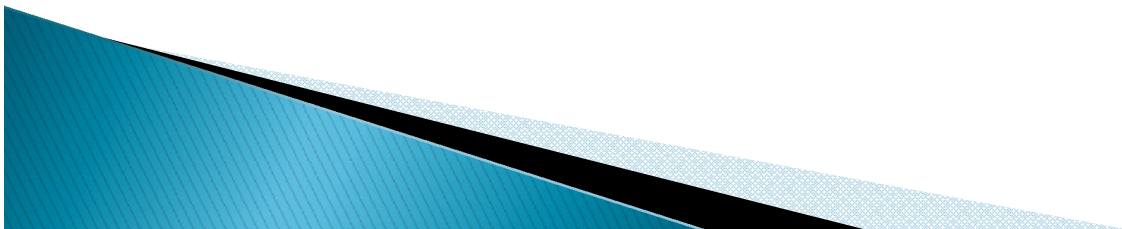
- Cost Analysis
- Effectiveness Measures
- Cost Effectiveness Ratio (CER)
- Sensitivity Analysis
- Data Sources





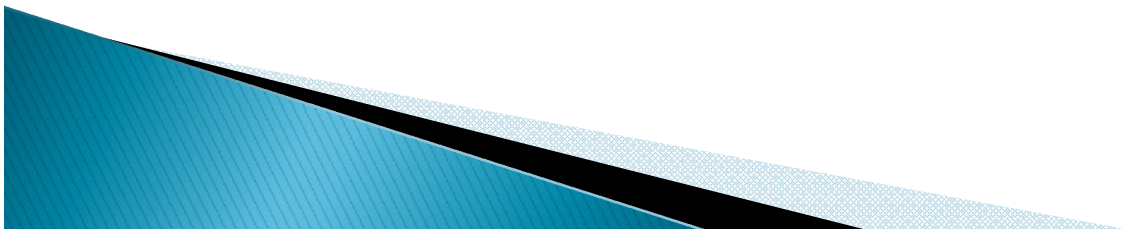
## COST - Items

- ▶ 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



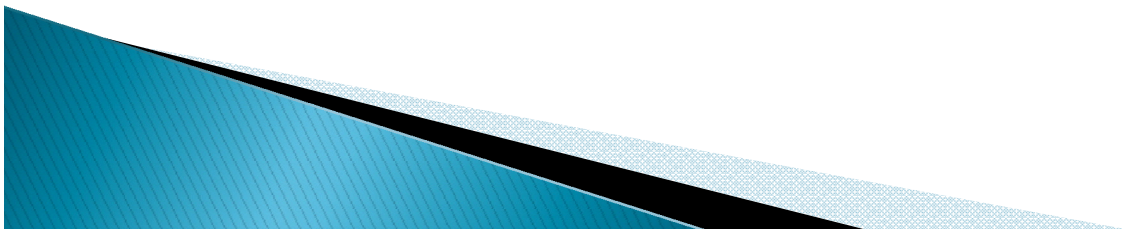
# EFFECTIVENESS MEASURES

- ▶ 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



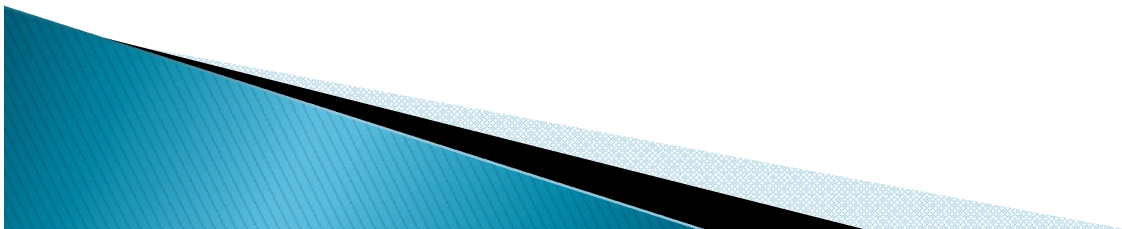
## COST EFFECTIVENESS RATIO

- ❑ 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



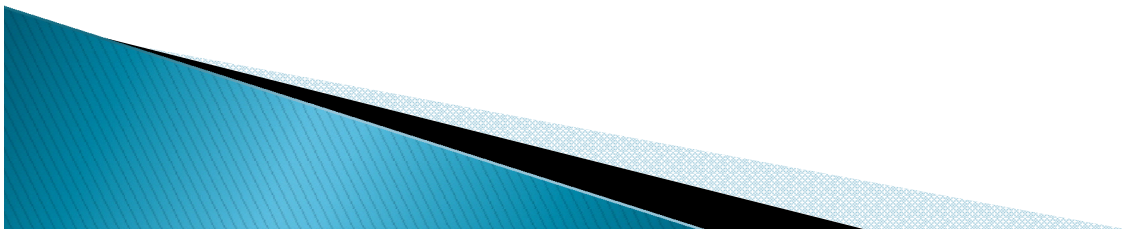
# SENSITIVITY ANALYSIS

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



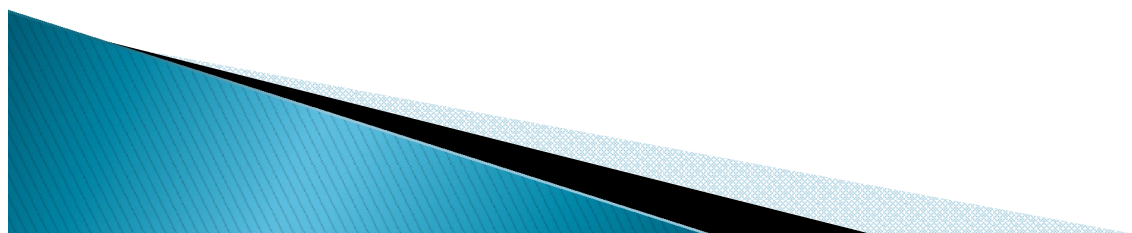
## DATA SOURCES

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



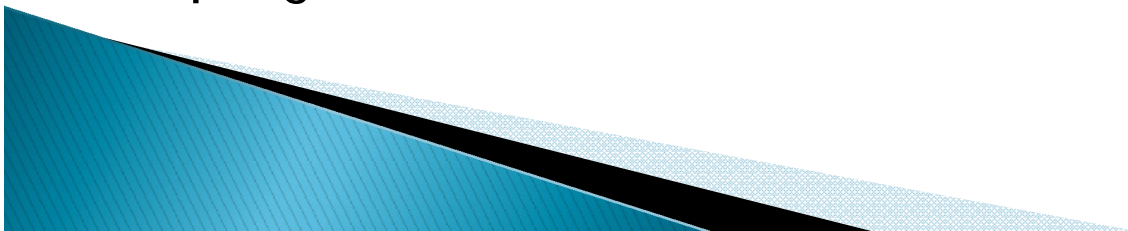
## Estimates of incremental cost (in NGN) of HGSF&H and EA programmes

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

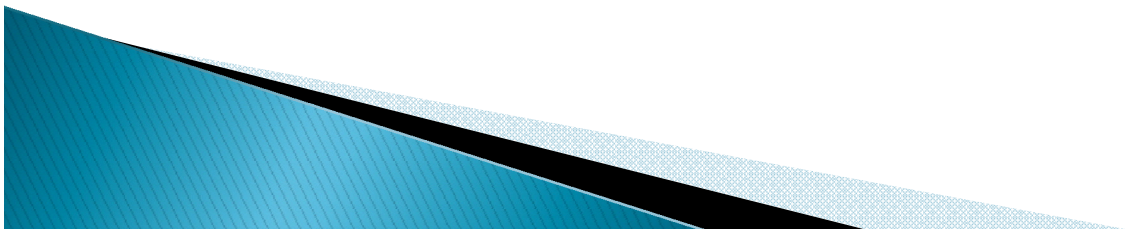


# Estimates of the CERs of HSGF&H and EA programs

Intervention	X - Estimated increase in achievement (%)	Y - Probability of adequate implementation (%)	XY - Probable impact (%)	Z - Incremental cost (%)	Z/XY - CERs	
					(%)	(NGN) <sup>a</sup>
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

$$CER = \frac{Z}{XY} = \frac{\text{cost}}{\text{effectiveness}}$$

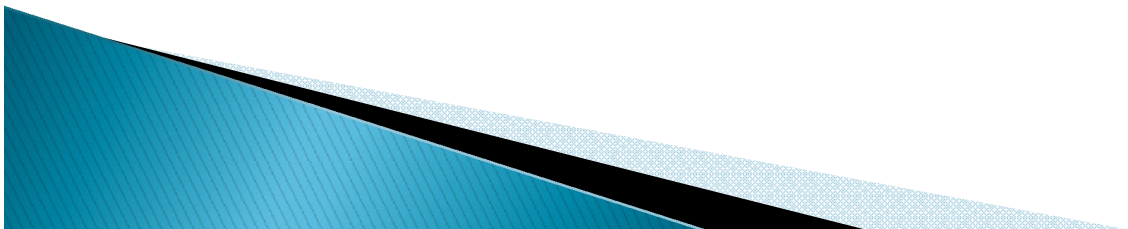
<sup>a</sup>: 2,417.09 = 10.88% \* 22,215.54 and 397.66 = 1.79% \* 22,215.54





## 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!**