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Increasing Female School Enrollment in Nigeria: Some Policy Options

The existing Free Primary Education Program can be made more effective at increasing female school enrollment by complementing it with programs that provides free transportation and stipends to female pupils.

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1. Introduction

The last two decades have witnessed an outpouring of policies aimed at increasing school enrollment in Nigeria, yet problems still persist. Evidence on what works and what does not can help government design and implement programs that may help solve these remaining problems. In line with promoting evidence based policymaking, this policy brief presents a summary of simulation study of two (2) policy alternatives, which the federal government can adopt in order to increase enrollment of girls in the primary schools, and by extension eliminate gender disparity.

The results reveal that providing free primary education for all pupils with stipends for girls saves government more money relative to its effectiveness than providing free primary education for all pupils with transportation for girls. Therefore, for the Nigerian government to increase female school enrollment, reduce illiteracy rate and achieve the MDG Goal 3 of gender equality, the existing policy of free primary education should be complemented with free transportation for girls in the high pedestrian traffic urban areas and with free stipends in the low income rural areas.

2. Policy Goals and Alternatives

In recent times, the federal and state governments in Nigeria have adopted the policy of free education (FE) for all, especially at the primary school level. The FE program ensures that parents pay little or no tuition fees for their wards but they cater for their uniforms, textbooks, feeding, transportations and other related items. Despite the FE program, there is a high rate of school drop-out and low enrollment especially among the female pupils - with over 5 million girls without access to primary education. The reason for these persistent problems could be partly due to high level of poverty in Nigeria, which deprives parents from discharging their responsibilities. With the above insight, two policy alternatives are proposed to complement the existing FE program:

- **Free primary education for all pupils with stipend for girls (henceforth Policy A)**
- **Free primary education for all pupils with transportation for girls (henceforth Policy B)**

"….for the Nigerian government to increase female school enrollment… the existing policy of free primary education should be supported with free stipends in low income rural areas."

Policy A entails payment of stipend of up to 60 percent of direct primary schooling cost to cover for at least four key items; school uniforms, textbooks, school bags and sandals for female students. On the other hand, policy B will offer transport voucher to female pupils. Transport voucher of a specific face value will be given out to female pupils daily. The students are expected to use this voucher as a means of payment for transport that will convey them to and fro their schools. In order to ensure the effectiveness of this program, especially in the rural areas, government can also think of the implementation by arranging with some commercial bus drivers and motorcyclists who can be taking the female pupils to school.

3. Methodology

The policy simulation analysis follows five basic steps. First, the relative effectiveness of the policy alternatives is derived, and then the relative benefits are calculated based on the effectiveness measures. Secondly, detailed costs of the programs are estimated by considering all the necessary cost components. Thirdly, relying on the costs and benefits estimates, a cost-benefit ratio (CBR) is calculated for both policies to determine which policy is more efficient and beneficial. Fourthly, a sensitivity analysis is conducted to highlight the impact of changes in the parameters used in the analysis on the results. Lastly, equity considerations in the distribution of benefits are then examined by grouping the beneficiaries into five income groups, ensuring that the poor are adequately benefit from increased coverage with little or no tradeoff from the rich.

Data used for this analysis were sourced from publications of the National Bureau of Statistics - the Annual Abstract of Statistics (2009) and Social Statistics (2009). Other sources include: World Development Indicators, Federal Ministry of Education and the Universal Basic Education Commission (UBEC). In few cases, some data – including average growth or changes were derived using several assumptions.

"Policy A…will lead to gross female primary school enrollment of around 96% (i.e. a total of about 32 million new enrollments) by the end of 2020."

4. Results and Discussion

The results of the simulation show that policy A will achieve 90% additional enrollment of out of school females. In addition, it will lead to gross female primary school enrollment of around 96% by the end of 2020 – i.e. a total of about 32 million new enrollments. Similarly, policy B will achieve around 72% additional enrollment of girls that are out of school and gross female primary school enrollment of 89% by the end of 2020 - i.e. a total of about 25 million new enrollments. However, this does not necessarily imply that Policy A is better than policy B. In this case, the associated benefits and costs must be considered.

Table 1: Relative Benefits of Policies A and B

		2013	2014	2015	2016	2017	2018	2019	2020	Total
Policy A	New Enrollment	536,183	1,688,377	2,952,035	4,023,898	4,865,931	5,437,056	6,048,792	6,703,213	32,255,485
	Completion	69,704	219,489	383,764	523,107	632,571	706,817	786,343	871,418	4,193,213
	Life-time Earnings (NGN' Billion)	246.4	775.9	1,356.6	1,849.2	2,236.1	2,498.6	2,779.7	3,080.5	14,823.0
Policy B	New Enrollment	428,947	1,350,702	2,361,628	3,219,119	3,892,745	4,349,645	4,839,034	5,362,570	25,804,388
	Completion	55,763	175,591	307,012	418,485	506,057	565,454	629,074	697,134	3,354,570
	Life-time Earnings (NGN' Billion)	197.1	620.7	1,085.3	1,479.3	1,788.9	1,998.9	2,223.8	2,464.4	11,858.5

Tables 2 and 3 present the total benefits, the cost of each policy alternative, the net present value (NPV) as well as the cost-benefit ratio for both policy A and policy B. The CBR for policy A is 0.125 while the CBR for policy B is 0.133. Since policy A has the lower CBR, it implies that policy A is more sustainable and beneficial than policy B. Similarly, the NPV of policy A of NGN 11,321.2 billion is higher than the NPV of policy B which is NGN 8,983 billion.

"The cost-benefit ratios show that policy A is more sustainable and beneficial than policy B."

Table 2: Cost-Benefit Ratio of Policy A

Year	(Total Benefits) Lifetime earnings @NGN101,000/ Annum (NGN' Billion)	Total cost of program and other primary education cost incurred (NGN' Billion)	Discount Factor @3%	Discounted Total Benefits (NGN' Billion)	Discounted Total Cost (NGN' Billion)	Net Present Value (NGN' Billion)
2013	246.4	110.7	1.00	246.4	110.7	135.7
2014	775.9	149.4	0.97	753.3	145.1	608.2
2015	1,356.6	191.7	0.94	1,278.7	180.7	1,098.0
2016	1,849.2	227.9	0.92	1,692.3	208.6	1,483.7
2017	2,236.1	256.8	0.89	1,986.8	228.2	1,758.6
2018	2,498.6	277.1	0.86	2,155.3	239.1	1,916.3
2019	2,779.7	298.8	0.84	2,3287.0	250.2	2,077.7
2020	3,080.5	321.8	0.81	2,504.7	261.7	2,243.0
Total	**14,823.0**	**1,834.4**		**12,945.5**	**1,624.3**	**11,321.2**
				Benefit-Cost Ratio		**7.97**
				Cost- Benefit Ratio		**0.125**

Table 3: Benefit-Cost Ratio of Policy B

Year	(Total Benefits) Lifetime earnings @NGN101,000 /Annum (NGN' Billion)	Total cost of program and other primary education cost incurred (NGN' Billion)	Discount Factor @3%	Discounted Total Benefits (NGN' Billion)	Discounted Total Cost (NGN' Billion)	Net Present Value (NGN' Billion)
2013	197.1	99.8	1.00	197.1	99.8	97.3
2014	620.7	130.3	0.97	602.6	126.5	476.1
2015	1,085.3	163.7	0.94	1,023.0	154.3	868.7
2016	1,479.3	192.3	0.92	1,353.8	176.0	1,177.8
2017	1,788.9	215.2	0.89	1,589.4	191.2	1,398.2
2018	1,998.9	231.4	0.86	1,724.3	199.6	1,524.6
2019	2,223.8	248.7	0.84	1,862.4	208.3	1,654.1
2020	2,464.4	267.1	0.81	2,003.8	217.1	1,786.6
Total	**11,858.5**	**1,548.5**		**10,356.4**	**1,372.9**	**8,983.5**
				Benefit-Cost Ratio		**7.54**
				Cost-Benefit Ratio		**0.133**

A sensitivity analysis was conducted to determine the effect of uncertainty on the results. The results show that the CBR for policy A is more robust and less sensitive than the CBR for policy B. Data from the Nigerian Living Standard Survey (NLSS, 2004) reflects an equitable distribution of primary school enrolment in Nigeria. Thus, this formed the basis for the distribution of the subsidy emanating from the intervention to each income quintiles.

5. Conclusion and Policy Recommendations

The results of the cost analysis show that policy B has a lower-cost per pupil but induces a lower enrollment, while policy A is more beneficial in terms of the number of new enrollments and life-time incremental earnings of the beneficiaries. The small values of the cost-benefit ratios suggest that both policies are economical. However, policy A is more cost-effective and beneficial since it has a lower cost-benefit ratio. For each policy alternative, the study analyzed two possible funding scenarios and how each policy can be gradually financed. The study further addressed equity issues in the distribution of benefits across the different income groups. For each payment option considered, subsidies were redistributed in favour of the poor income groups. Overall, the results suggest that policy A is the best option to achieve the proposed policy target.

Policy Recommendations

There are several important policy recommendations emerging from this policy simulation exercise:

- For the Nigerian government to achieve the goal of increasing the enrollment of out of school girls in primary school, it should introduce a complementary policy of free transportation to the existing free tuition fee. This should necessarily target the urban centres where there is high pedestrian risk, insecurity and high rate of motor accidents which often discourage parents from sending their children (especially girls) to school.
- Government should also introduce a complementary policy of free stipend (for direct education – uniform, school bags, sandals and textbooks) to the existing free tuition fee policy in rural areas which are characterized by high incidence of poverty. Inability to provide these basic schools needs have forced parents to engage their female children in economic activities rather than sending them to school.
- In case of semi urban areas with less pedestrian risk and moderate poverty incidence, the best option will be for government to implement both policies as complements. However, this will depend on resource availability.
- There is a need to put in place a good monitoring and evaluation system. This way, it will be easy to see whether the policies are being adequately implemented and if there are improvements in performance that can be associated with such policies.

Further Reading

This policy brief is a summary of a research conducted by CSEA. For the full report and other reports published by CSEA, please visit www.cseaafrica.org.

- Uneze, E.F. and Tajudeen, I. (2012), "Policy Simulation of Female Education Assistance Programs in Nigeria", *a research report* prepared for the Global Development Network (GDN) under the Strengthening Institutions to Improve Public Expenditure Accountability Project.

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About CSEA

The Centre for the Study of the Economies of Africa (CSEA) is an independent non-profit organization established by Dr. Ngozi Okonjo-Iweala. CSEA aims to strengthen the evidence-based policy space through high quality and timely research.