### **Spatial Assessment of Pro- Poorness of Households' access to Education in Rural and Urban Nigeria** Ogunsola GO<sup>+</sup> and Oyekale AS<sup>++</sup>

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**Abstract:** The essence of education cannot be over emphasized. Meanwhile, there are inequalities in educational access and achievement as well as high levels of absolute educational deprivation of both children and adults. The data used were the demographic health and survey of 1999, 2003 and 2008. Fuzzy set approach was used to aggregate welfare attributes before computing the pro-poor policy indices (PPPI). Results show that, while it pro-poor based on the two measures of poverty in urban households, it is only poverty incidence pro-poor in rural areas. This study reveals that rural and urban households is anti-poor Jigawa (slightly pro-poor with PPPI of 1.0378), Kaduna, Kastina and Sokoto states show pro-poorness with respect to education. Access to education in north east is only pro-poor in 2007 with respect to poverty incidence but anti poor in Bauchi, Borno and Taraba states. Therefore putting education in proper perspective, efforts should therefore be geared towards improving education access. [Ogunsola GO and Oyekale AS. **Spatial Assessment of Pro- Poorness of Households' access to Education in Rural and Urban Nigeria.** *Life Sci J* 2013;10(4):462-469] (ISSN:1097-8135). http://www.lifesciencesite.com. 60

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## Introduction

Illiteracy is catastrophic and it exposes citizens to poverty, ignorance, maternal mortality, hunger, violence, abuse, exploitation, trafficking, HIV/AIDS and other diseases (Subrahmanian 2002). Drastic reductions in spending on education caused by severe decline of the oil market in the early eighties and the Structural Adjustment Programme (SAP), resulted in unpaid teacher salaries, degradation of education facilities at all levels and strikes in universities and schools. The end result is declining literacy rates in the country. This poor state of education was captured in the National Empowerment Development Strategy: the delivery of education in Nigeria has suffered from years of neglect, compounded by inadequate attention to policy frameworks within the sector. Findings from an ongoing educational sector analysis confirm the poor state of education in Nigeria. The national literacy rate is currently 57 percent. Some 49 percent of the teaching force is unqualified. There are acute shortages of infrastructure and facilities at all levels. Also access to basic education is inhibited by gender issues and sociocultural beliefs and practices, among other factors. Wide disparities persist in educational standards and learning achievements. The system emphasizes theoretical knowledge at the expense of technical, vocational, and entrepreneurial education. School curricula need urgent review to make them relevant and practice oriented (NEEDS). Similarly, according to the Nigeria Millennium Development Goals 2005 report, literacy level in the country has steadily and gradually deteriorated, especially within the 15-24 years group. By 1999, the overall literacy

rate had declined to 64.1 % from 71.9 % in 1991. The trend was in the same direction for male and female members of the 15-24 years age bracket. Among the male, the rate declined from 81.35 % in 1991 to 69.8 % in 1999. The decline among the female was from 62.49 % to 59.3 % during the same period (MDG 2005).

Meanwhile, the education system in Nigeria is guided by the broad National objectives which are articulated in the National Policy on Education. At its inception in 1999, in response to the challenges in the primary education sector, the present administration launched the Universal Basic Education Programme. Specifically, the Universal Basic Education Act (2004) and the Child Rights Act provide the legal framework for the implementation of the Programme, which makes basic education not only free but also compulsory. In addition, as a signatory to the 2000 World Education Conference, and the 6 Dakar Goals towards achieving Education for All (EFA), Government has also established a National EFA Coordination unit under the Federal Ministry of Education mandated to prepare a National Action Plan for the delivery of EFA in Nigeria.

With all these programmes, there still exist a lot of challenges facing Nigeria and making it difficult for good quality education that is empowering and capable of bringing about sustainable development to be provided. First is the challenge facing education is inadequate funding by federal, states and local governments to the extent that funding has been in response to conditionalities imposed by international financial institutions (IFIs). In 1997 and 2000 statistics show that federal government expenditure on education was below 10% of overall expenditure. It noticed that, the national expenditure on education cannot be computed because various states expenditure on education cannot be determined, in relation to the UNESCO recommendation of 26% of national budgets (Mahmoud S 2013).

Secondly, there is the problem of access which has attracted a lot of attention particularly in recent years. A study conducted by Action Aid published in 2003 some reasons pupils do not go to primary schools to include; costs of schooling, opportunity costs, illness and hunger, limited economic costs of education and low quality of schooling (Action Aid 2003). The costs of schooling include the costs of books, stationery and basic equipment, uniforms, admission fees, registration and examination fees, contribution towards building and maintenance fund, construction fees, transportation, mid-day meals, Parents/Teachers Association (PTA) fees, sports fees, library fees and extra tuition fees. The opportunity cost for parents sending children to school is the children's time that could have been of economic importance to the family either in terms of income generating activities or in supporting the functioning of the household. Illness and hunger either of the children themselves or members of the family can prevent children from going to school. Limited economic benefits in terms of the fact that those who have completed school have no jobs do dissuade people from going to school. Low quality of schooling particularly with regards to poor physical infrastructures, lack of motivated staff, poor utilization of resources, content of curriculum, nature of teaching methods and relationship of the school and teachers with the wider community can negatively impact on the urge to go to school (Action Aid 2003).

Another problem of Education in Nigerian schools today especially where there is access is the politicization of Education; which seriously affected the development of education. Today many educational institutions are opened and run in many states on political ground or other flimsy reasons. In Nigerian schools today admission in universities, colleges, polytechnics, monotechnics, secondary and primary schools are sometimes guided by politicians' not academic performance. Political offices or influences are also used by parents for the education of their children. A sensitive issue that crippled the development of education is the manner and the why the politician influence the recruitment exercise of teachers. Many people today are after securing job for their children just to have meal ticket not bothering whether their wards qualified or not. This has contributed to recruitment of many unqualified teachers in our schools (Mahmoud S. 2013). Also, there is the problem of poor infrastructures and lack of teaching and learning materials. A huge number of primary, secondary and tertiary school buildings and facilities are dilapidated and unfriendly to pupils. The environment of teaching and learning is not conducive (Otive 2006). In this paper we shall consider rural and urban access to education as it reveals their pro-poorness.

# Materials and Methods

## The data

The study used the Nigeria's 1999, 2003 and 2008 Demographic and Health Surveys (DHS) data. The methods of data collection had been described in details in the reports emanating from these studies {Nigeria Demographic and Health Survey (NDHS), 1999; 2003 and 2008}. However, it should be noted that the 1999 data comprised of 7919, 7684 households were sampled in 2003 and 36,800 households were sampled in 2008. In 2008, 34070 households completed the survey.

## Computation of Non-Income Welfare Indices

Bossert et al (2009) submitted that in measuring multidimensional poverty, it is necessary to first aggregate the information regarding the different functioning failures of each individual into a measure of poverty at the individual level, and second to aggregate the latter across individuals to obtain a measure of poverty for the entire society. In this study, as part of objective one, indices of welfare were computed using the Fuzzy Set theory originally developed by Zadeh (1965). Berenger (2010) noted that in terms of integrating the vague and complex nature of poverty, fuzzy sets theory is very advantageous. Therefore, instead of dividing the population between poor and non poor, fuzzy approach takes into account a continuum of situations between these two extremes. Zadeh (1965) characterized a fuzzy set as a class with a continuum of grades of membership. Therefore, in a population A of n households  $[A = a_1, a_2, a_3, \dots, a_n]$ , the subset of poor households B includes any household  $a_i \in B$ . These households present some degree of deprivation in some of the m poverty attributes (X).

Ayoola *et al* (2000) found out that for some Nigerian rural and urban areas assisted in selecting relevant welfare attributes because their study was based on focused group discussions and therefore considered to be the voice of the poor. Following Costa (2002), the degree of being poor by the i-th household (i=1,...,n) with respect to a particular attribute (j) given that (j = 1,...,m) is defined as:  $\mu_B [X_j (a_i)] = x_{ij}, 0 \le x_{ij} \le 1$ . Specifically,  $x_{ij} = 0$ when the household does not possess welfare enhancing attribute and  $x_{ij} = 1$  when the household possesses it. Betti *et al.* (2005) noted that putting together categorical indicators of deprivation for individual items to construct composite indices requires decisions about assigning numerical values to the ordered categories and the weighting and scaling of the measures. Individual items indicating non-monetary deprivation often take the form of simple 'yes/no' dichotomies. In this case  $x_{ij}$  is 0 or 1.

However, some items may involve more than two ordered categories, reflecting different degrees of deprivation. Consider the general case of c = 1 to C ordered categories of some deprivation indicator, with c = 1 representing the most deprived and c = C the least deprived situation. Let c<sub>i</sub> be the category to which individual *i* belongs. Cerioli and Zani (1990), assuming that the rank of the categories represents an equally-spaced metric variable, assigned to the individual a deprivation score as:  $x_{ij} = (C-ci)/(C-1)$  1

where  $1 \le c_i \le C$ . Therefore,  $x_{ij}$  needs not to be compulsorily 0 or 1, but  $0 \le x_{ij} \le 1$  when there are many categories of the jth indicator and the household possesses the attribute with intensity.

The multidimensional welfare index of a household,  $\mu_B(a_i)$ , which shows the level of welfare and membership to set B is defined as the weighted average of  $x_{ii}$ ,

$$\mu_{B}(a_{i}) = \sum_{j=1}^{m} x_{ij} w_{j} / \sum_{j=1}^{m} w_{j} \qquad 2$$

w<sub>i</sub> is the weight attached to the j-th attribute.

The intensity of deprivation with respect to  $X_j$  is measured by the weight  $w_j$ . It is an inverse function of the degree of deprivation and the smaller the number of households and the amount of their deprivation, the greater the weight. In practice, a weight that fulfils the above property had been proposed by Cerioli and Zani (1990). This can be expressed as:

$$w_{j} = \log\left[\sum_{i=1}^{n} g(a_{i}) / \sum_{i=1}^{n} x_{ij} g(a_{i})\right] \ge 0 \qquad 3$$

Ideally,  $g(a_i) / \sum_{i=1}^{n} g(a_i) > 0$  and  $g(a_i) / \sum_{i=1}^{n} g(a_i)$  is

the relative frequency represented by the sample observation  $a_i$  in the total population. Therefore when  $x_{ij}=0$ , the welfare attribute should be removed.

The poverty line of the population  $\mu_B$  is simply obtained as a weighted average of the poverty ratio of the i-th household  $\mu_B(a_i)$ 

$$\mu_{\rm B} = \sum_{i=1}^{n} \mu_B(a_i) g(a_i) / \sum_{i=1}^{n} g(a_i).$$

**Pro-poor Policy Index (PPPI)** 

Many of the programs that exist in Nigeria during recent economic reforms aim to reduce

poverty through provision of goods and services. Given that perfect targeting cannot be achieved in practice, it is important to study how efficient the mechanisms for distributing benefits from social programmes are.

The mathematical derivation for linking poverty with implemented programs, following Kakwani and Son (2006) began by assuming that when there is a welfare transfer of [b(x)] income from government that leads to increase in the initial income (x), the percentage change in poverty resulting from the transferred benefits can be expressed as:

$$\frac{d\theta}{\theta} = \frac{1}{\theta} \int_{0}^{z} \frac{\partial P}{\partial x} b(x) f(x) d(x)$$
 5

Because government's programs are tagged propoor when the poor get more of the benefits, the same program is expected to lead to more poverty reduction unlike a situation where everybody gets the

same share. If b is the average benefit derived from the program, the percentage change in over all

poverty level when everybody receives  $\bar{b}$  can be expressed as:

$$\frac{d\theta}{\theta} = \frac{b}{\theta} \int_{0}^{z} \frac{\partial P}{\partial x} f(x) d(x)$$
 6

Pro-poor policy index will be defined as the ratio of the actual proportion benefits received (15) to the benefits received when every gets equal share (16). Therefore, the pro-poor policy index can be expressed as:

$$\lambda = \frac{1}{\bar{b}\eta\theta} \int_{0}^{z} \frac{\partial P}{\partial x} b(x) f(x) d(x) \qquad 7$$

Where  $\eta = \frac{1}{\theta} \int_{0}^{z} \frac{\partial P}{\partial x} f(x) d(x)$  is the absolute

elasticity of poverty. The larger the value of  $\lambda$ , the better the program. However, when  $\lambda > 1$  ( $\lambda < 1$ ) the program is pro-poor (anti-poor). The  $\lambda$  can be calculated not only for cash transfer programs. Households derive some income benefits by participating in some education, health and other social services. Therefore, if we assume that all individuals derive the same benefits, pro-poor policy index  $\lambda$  can be calculated by defining b(x) = 1 for users of the program and 0 otherwise. On the implementation of this with the proposed fuzzy welfare attribute aggregation approach, we computed  $\mu_B$  ( $a_i$ ) when an attribute, say x<sub>ij</sub> is removed to get what the  $\mu_B(a_i)$  would be without the attribute. We later replaced all the respondents with average of total  $x_{ij}$  obtained from an attribute in order to derive what  $\mu_B(a_i)$  would be when everybody gets the same benefit. Using the average of  $\mu_B(a_i)$  as the poverty line, we used DAD 4.5 software to decompose poverty across different groups, with proper weighting. The PPPI were then calculated.

## **Results and Discussion**

The fuzzy set method was used to construct some indices of welfare for each of the households using some welfare attributes. The comprehensive list of the attributes that were found in some of the data include main floor material, wall material, main roof material, highest educational level. However, for the 2006 Core Welfare Questionnaire (CWIQ) data, some unique attributes like having problem satisfying food problem, problem paying school fees, problem paying house rent, problem paying utility bills, problem paying health care fees, building of schools improve life, rehabilitation of schools improve life.

The results of the pro-poor analyses based on education are presented in tables 1, 2 and 3. In the North West zone, table 1 shows that in urban households, access to education by the house heads is anti-poor. Similar findings are obtained for the rural areas and the combined households in tables 2 and 3 respectively. Across the states that make up the North West zone, table 1 shows that in urban Jigawa state, access to education is slightly pro-poor with PPPI of 1.0378. However, table 2 shows that in the rural areas, a couple of the results for Jigawa, Kaduna, Sokoto, Katsina and Zamfara states imply that access to education by the house heads is pro-poor. In the combined household results, access to education by the house heads is totally anti-poor in Kano, Kebbi and Zamfara states, while Jigawa, Kaduna, Katsina and Sokoto states show pro-poorness with respect to education in 2003, 1999, 1999 and 2007. respectively.

In the North East zone, table 1 show that access to education by urban house heads is only propoor in 2007 with respect to poverty incidence. In the rural areas (table 2) and the combined households (table 3), access to education is not pro-poor in any of the results. At the state-level results, table 1 shows that in urban areas, access to education is not propoor at all in Borno and Gombe states. Adamawa, Bauchi, Taraba and Yobe show some pro-poorness in some of the results. Table 2 further reveals that in the rural areas, access to education is completely antipoor in Bauchi, Borno, and Taraba states while it is pro-poor in Adamawa, Gombe and Yobe in 2007. In the combined households, table 3 shows that access to education is pro-poor in Adamawa, Borno and Taraba (in 2003), Gombe and Yobe states (in 2007).

In the North Central zone, table 1 shows that urban households show education pro-poorness in 2003 for poverty incidence. In tables 2 and 3, education is pro-poor in 2003 and 2007 for poverty incidence in rural and combined households from North Central zone. Within the states that make up the zone, access to education is not so pro-poor as shown in table 1. In Plateau state, education is propoor in 1999 and 2003. Only Kwara and Nasarawa show pro-poorness of education in 2007. Table 2 reveals that education is pro-poor in rural areas. Only Niger state does not have any of the PPPI being greater than one. In Benue state, education is propoor in all the years covered. In 2007 education is anti-poor only in FCT and Niger state. In the combined households' result presented in table 3 Education is pro-poor in all the years in Plateau and Benue state. As earlier observed, education is not pro-poor in any of the result in Niger state.

In South West, table 1 shows that in urban areas, access to education is pro-poor in 1999 and 2007. In the rural areas, table 2 shows that access to education is pro-poor in poverty incidence measure of PPPI in all the years. Table 3 however shows that for the combined data, education is pro-poor only in 1999 and 2007. The state-level results reveal that in table 1, education is pro-poor in all the years in urban households in Ondo and Osun states using any of the poverty measures. Pro-poorness of education is only found in both measures of poverty in urban Ekiti and Ovo states in 2007. In the rural areas, education is pro-poor in all the states in either or all of the poverty measures in 2007. It should also be noted that it is only in rural Lagos state where education is pro-poor in all the years covered in the analyses. In the combined households, table 3 shows that Ondo, Osun and Ogun states have either of the poverty measures' PPPI being pro-poor in all the years covered. While education is pro-poor in Lagos and Ekiti states in 1999 and 2007, it is only pro-poor in Oyo state in 2007.

In South South zone, tables 1, 2 and 3 shows that education is pro-poor only in 1999 and 2007. At the state-level, table 1 show that urban education is anti-poor in all the results obtained for Edo state. Only Bayelsa and Delta state show education propoorness in 2007. This is contrary to the findings for 1999 where it is not pro-poor only in Edo and Delta states. In the rural areas, table 2 shows that education is pro-poor in all the years of analyses in Akwa-Ibom and Cross-Rivers state. In 2007, education is propoor in all the states using any or both poverty measures. In the combined results in table 3, education is pro-poor in all the states except Rivers state. Also, Edo state seems to be picking up on ensuring access to education because the results for 1999 and 2003 are not pro-poor, while 2007 is propoor.

In South East, table 1 shows that in urban areas, access to education by the house heads is propoor in 1999 and 2003. In rural areas, table 2 shows that education is pro-poor in 2003 and 2007. However, in the combined households' results, education is pro-poor in all the years covered in the analyses. At the state-level, table 1 shows that in urban areas, none of the results in 2007 is pro-poor. There is none of the results being pro-poor in Enugu state, while Imo and Abia states record pro-poorness only in 2003. In table 2, all the states in rural areas show pro-poorness of education in 2007. Specifically, Abia and Ebony states have PPPIs as high as 3.3089 and 3.1302, respectively. In Abia and Ebonyi states, education is pro-poor in all the years. In the combined results, table 3 shows that education is pro-poor in all the states in 2007, unlike 1999 where only Abia, Anambra and Ebonyi states show pro-poorness and 2003 where only Enugu state is not pro-poorness.

In the analysis for Nigeria, tables 1 and 2 show that in urban areas, education is pro-poor in 2007. However, while it pro-poor based on the two measures of poverty in urban households, it is only poverty incidence pro-poor in rural areas. In the combined results, table 3 shows that education is also pro-poor in 2007.

 Table 1: Pro-Poor Policy Indices for Access to Education in Urban Nigeria (1999-2008)

State/Zone	1999		2003		2007	
	Incidence	Depth	Incidence	Depth	Incidence	Depth
North West	0.8400	0.5439	0.6985	0.3986	0.3017	0.4560
Jigawa	0.0000	0.1111	1.0378	0.2588	0.3429	0.0000
Kaduna	0.7493	0.3663	0.7832	0.4866	0.1883	0.4162
Kano	0.9987	0.6097	0.9818	0.3892	0.0000	0.0000
Katsina	0.3333	0.4816	0.5328	0.5257	0.0000	0.3458
Kebbi	0.0000	0.9978	0.5890	0.3899	0.0000	0.3934
Sokoto	0.0000	0.3276	0.4215	0.2444	1.0000	0.5478
Zamfara	0.0000	0.6670	0.7875	0.4329	1.0000	0.2537
North East	0.7947	0.9255	0.9378	0.5190	1.0391	0.4881
Adamawa	0.0000	1.0831	1.4173	0.8236	0.9777	0.7960
Bauchi	0.0000	1.5965	1.1179	0.2812	0.0000	0.3846
Borno	1.0000	0.8477	0.6392	0.7102	0.4486	0.2589
Gombe	0.0000	0.2661	0.9814	0.7258	4.1645	0.6058
Taraba	1.2500	1.2398	1.9006	0.4548	0.0000	0.4917
Yobe	0.5000	0.7696	0.8624	0.4610	1.7792	0.6305
North Central	0.8089	0.8487	1.3284	0.8449	0.6983	0.9800
Benue	1.0000	0.9983	3.2048	1.0886	0.0000	0.6165
Kogi	1.0000	0.6724	1.2818	0.8027	0.6147	0.8813
Kwara	0.7392	0.7997	0.7238	0.3360	1.1965	1.5698
Nasarawa	0.0000	0.7915	0.1608	0.8432	1.9421	1.6984
Niger	0.5000	1.2747	0.9472	0.6215	0.0000	0.0000
Plateau	1.5013	1.0036	1.4224	0.9825	0.0000	0.9451
FCT	0.0000	0.5395	0.0000	1.0787	0.0000	0.7836
South West	1.0436	0.9850	0.9842	0.5939	1.9151	1.4625
Ekiti	1.0000	0.9585	0.7871	0.8400	2.2000	5.2724
Lagos	0.5904	1.1484	0.8350	0.7648	0.0000	2.6858
Ogun	1.3914	1.0887	1.0471	0.5088	0.4859	0.8174
Ondo	1.9241	0.6892	1.2571	0.6303	1.3104	1.9256
Osun	1.0000	1.0556	1.2205	0.5078	1.6305	102.8810
Оуо	1.0000	0.9185	0.9660	0.5427	2.1401	1.7810
South South	1.3944	1.1822	0.9028	0.9298	4.2772	1.4036
Akwa- Ibom	1.6667	1.5034	1.4156	0.8897	0.0000	0.0000
Bayelsa	1.0000	1.4773	0.4846	0.9392	0.0000	1.2676
Cross –River	0.0000	1.5965	1.4054	0.9362	0.0000	0.0000
Delta	0.0000	0.5252	0.8794	1.0187	7.1381	0.0000
Edo	0.0000	0.8754	0.4214	0.4360	0.0000	0.0000
Rivers	0.0000	1.4057	0.9807	1.0938	0.0000	0.6517
South East	1.9045	0.7140	1.0723	0.6500	0.0000	0.9877

Abia	1.0000	1.4270	1.2434	0.7251	0.0000	0.0000
Anambra	3.0052	1.0488	1.3033	0.7574	0.0000	0.0000
Ebonyi	2.0000	0.5505	1.4143	0.3958	0.0000	0.7689
Enugu	0.0000	0.7334	0.0000	0.6303	0.0000	0.0000
Imo	0.0000	1.5965	1.1641	0.7383	0.0000	0.0000
National	0.9703	0.8394	0.9245	0.6167	1.4923	1.0755

Source: Authors' computations

 Table 2: Pro-Poor Policy Indices for Access to Education in Rural Nigeria (1999-2008)

State/Zone	1999		20	03	2007	
	Incidence	Depth	Incidence	Depth	Incidence	Depth
North West	0.8386	0.5423	0.6995	0.3791	0.4822	1.0000
Jigawa	0.3378	0.4217	2.5577	0.2445	0.4652	0.3342
Kaduna	2.0417	0.8379	0.7832	0.5245	1.0154	0.7458
Kano	0.3966	0.5824	1.1064	0.3899	0.3757	0.5011
Katsina	1.4008	0.6306	0.5478	0.5406	0.3412	0.2244
Kebbi	0.3266	0.4213	1.0000	0.1765	0.0000	0.0768
Sokoto	0.0000	0.3122	0.4267	0.2309	0.8766	1.2728
Zamfara	1.3292	0.3948	0.3561	0.4291	0.2694	0.2010
North East	0.6665	0.5981	0.6695	0.4835	0.6004	1.0000
Adamawa	0.0000	0.8781	0.0000	0.7942	1.0136	0.8123
Bauchi	0.0000	0.5322	0.7231	0.2350	0.6035	0.2394
Borno	0.0000	0.5133	0.4137	0.7038	0.6769	0.3015
Gombe	0.0000	0.5414	0.6655	0.6999	1.2430	0.5129
Taraba	0.6667	0.8039	1.0000	0.4082	0.0000	0.2052
Yobe	0.7549	0.6990	1.0000	0.4719	1.1983	0.4546
North Central	0.7600	0.8376	1.6642	0.8645	1.1828	1.0000
Benue	0.9970	1.0891	4.0514	1.0843	2.6527	0.9786
Kogi	0.5035	0.6989	1.3779	0.8605	1.2215	0.6716
Kwara	0.5915	0.6446	0.0000	0.2693	1.3242	1.0403
Nasarawa	1.0204	0.5784	1.0000	0.9432	2.1553	1.0253
Niger	0.6062	0.6782	0.8416	0.6301	0.4044	0.5474
Plateau	0.9860	0.8009	1.9016	0.9599	1.5538	1.2854
FCT	0.7500	1.0802	0.0000	1.2369	0.0624	0.2395
South West	1.2754	0.8319	1.0604	0.5432	1.8485	1.0000
Ekiti	0.0000	0.9119	0.0000	0.7937	1.1036	1.5778
Lagos	0.7424	1.0725	1.0000	1.7889	1.0000	1.8457
Ogun	1.0000	0.9126	0.8460	0.4468	2.2437	0.8585
Ondo	3.0163	0.8091	0.0000	0.6382	1.6632	1.5450
Osun	1.5021	0.9474	0.9971	0.3602	1.6445	1.5657
Оуо	1.0000	0.8016	1.0000	0.4935	1.6408	1.4692
South South	1.2394	1.1012	0.8923	0.8935	1.5793	1.0000
Akwa- Ibom	1.2414	1.1934	1.4156	0.8657	2.0160	1.5271
Bayelsa	1.0000	1.4165	0.4846	0.9392	1.4213	1.5475
Cross –River	2.0000	1.1864	1.4328	0.9236	2.0000	1.1999
Delta	0.8051	0.9004	1.0000	0.9955	1.2805	1.6228
Edo	0.0000	0.8018	0.0000	0.3376	1.9237	1.3332
Rivers	1.7391	1.1577	0.9783	1.0159	0.0000	0.5827
South East	0.9562	0.9193	1.1954	0.6707	2.6108	1.0000
Abia	1.0042	1.1375	1.2434	0.7461	3.3089	1.4901
Anambra	0.7662	0.9587	1.1073	0.7607	1.4626	1.2155
Ebonyi	1.9466	0.6964	2.0000	0.4341	3.1302	1.1691
Enugu	1.0000	0.8878	0.0000	0.5720	2.1031	1.1970
Imo	0.8806	0.8582	1.1641	0.7383	2.5954	1.3074
National	0.9734	0.7684	0.9194	0.6028	1.2302	1.0000

Source: Authors' computations

State/Zone	1999	)	2003		2007	
	Incidence	Depth	Incidence	Depth	Incidence	Depth
North West	0.8391	0.5425	0.6985	0.3986	0.4697	0.3517
Jigawa	0.5102	0.4217	1.0378	0.2588	0.4523	0.3411
Kaduna	1.2312	0.8379	0.7832	0.4866	0.8716	0.7152
Kano	0.7203	0.5824	0.9818	0.3892	0.3756	0.5264
Katsina	1.0459	0.6306	0.5328	0.5257	0.4555	0.2385
Kebbi	0.3266	0.4213	0.5890	0.3899	0.0000	0.0716
Sokoto	0.6970	0.3122	0.4215	0.2444	0.9023	1.2872
Zamfara	0.9487	0.3948	0.7875	0.4329	0.2796	0.2032
North East	0.7256	0.6581	0.9378	0.5190	0.6687	0.3796
Adamawa	0.0000	0.8781	1.4173	0.8236	0.9993	0.8152
Bauchi	0.0000	0.5322	1.1179	0.2812	0.6035	0.2397
Borno	1.0000	0.5133	0.6392	0.7102	0.6211	0.2858
Gombe	0.0000	0.5414	0.9814	0.7258	1.6553	0.5181
Taraba	0.9190	0.8039	1.9006	0.4548	0.0000	0.1927
Yobe	0.6461	0.6990	0.8624	0.4610	1.3326	0.4799
North Central	0.7756	0.8392	1.3284	0.8449	1.0772	0.8537
Benue	0.9976	1.0891	3.2048	1.0886	2.6527	0.9749
Kogi	0.6809	0.6989	1.2818	0.8027	1.1448	0.6708
Kwara	0.6587	0.6446	0.7238	0.3360	1.2984	1.0668
Nasarawa	0.8077	0.5784	0.1608	0.8432	2.1014	1.0327
Niger	0.5618	0.6782	0.9472	0.6215	0.3939	0.5460
Plateau	1.1667	0.8009	1.4224	0.9825	1.7973	1.2746
FCT	0.8202	1.0802	0.0000	1.0787	0.0538	0.2362
South West	1.1371	0.8741	0.9842	0.5939	1.8785	1.5087
Ekiti	1.8937	0.9119	0.7871	0.8400	1.4922	1.5792
Lagos	0.6577	1.0725	0.8350	0.7648	1.0000	1.7321
Ogun	1.2719	0.9126	1.0471	0.5088	1.1951	0.8467
Ondo	2.4876	0.8091	1.2571	0.6303	1.5628	1.5373
Osun	1.3506	0.9474	1.2205	0.5078	1.6391	1.6060
Оуо	1.0000	0.8016	0.9660	0.5427	2.0362	1.4562
South South	1.2516	1.1077	0.9028	0.9298	1.7753	1.5611
Akwa- Ibom	1.2739	1.1934	1.4156	0.8897	2.0160	1.5271
Bayelsa	1.0000	1.4165	0.4846	0.9392	1.4213	1.5445
Cross –River	2.0000	1.1864	1.4054	0.9362	2.0000	1.1999
Delta	0.8051	0.9004	0.8794	1.0187	2.6055	1.4544
Edo	1.0000	0.8018	0.4214	0.4360	1.9237	1.3333
Rivers	1.7391	1.1577	0.9807	1.0938	0.0000	0.5207
South East	1.0755	0.8748	1.0723	0.6500	2.6211	1.3188
Abia	1.0035	1.1375	1.2434	0.7251	3.3089	1.4984
Anambra	1.1421	0.9587	1.3033	0.7574	1.4626	1.2343
Ebonyi	1.9724	0.6964	1.4143	0.3958	3.1302	1.1411
Enugu	1.0000	0.8878	0.0000	0.6303	2.1031	1.1970
Imo	0.8806	0.8582	1.1641	0.7383	2.5954	1.3074
National	0.9724	0.7798	0.9245	0.6167	1.2740	0.7844

Table 3: Pro-Poor Policy Indices for Access to Education in Urban and Rural Nigeria (1999-2008)

Source: Authors' computations

### Conclusion

Education is essential for whatever means of livelihood chosen by a person. It is often referred to as a legacy whose essentiality cannot be overemphasized. Access to education is highly anti-poor in many of the results for northern part of Nigeria. There is the need for government to intensify efforts at integrating educational development in the northern states for overall economic development in Nigeria. Results show that, while it pro-poor based on the two measures of poverty in urban households, it is only poverty incidence pro-poor in rural areas. This study reveals that rural and urban households is anti-poor Jigawa (slightly pro-poor with PPPI of 1.0378), Kaduna, Kastina and Sokoto states show pro-poorness with respect to education. Government's expenditures on education should be more targeted at poor households. Efforts to fully implement the basic education policy would go a long way in ensuring that poor have adequate access to qualitative education.

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