NIGERIA
2015 Nigeria Education Data Survey (NEDS)

Education Profile

CONTENTS

ACRONYMS

ASAR	age-specific attendance rate
DHS	Demographic and Health Survey
FMOE	Federal Ministry of Education
GAR	gross attendance ratio
GER	gross enrollment ratio
IT	information technology
NAR	net attendance ratio
NBS	National Bureau of Statistics
NDHS	Nigerian Demographic Household Survey
NEDS	Nigeria Education Data Survey
NER	net enrollment ratio
NPC	National Population Commission
QC	quality control
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development

NIGERIA EDUCATION DATA SURVEY (NEDS) EDUCATION PROFILE

This document is based on the structure of previous education profiles that traditionally use Demographic and Household Survey (DHS) data to characterize children's participation in primary and secondary schooling and adults' schooling attainment and literacy. Previously, these standardized profiles were used for cross-country comparisons. However, in the context of Nigeria, past DHS data, combined with the 2015 NEDS, allows a longitudinal perspective of the same indicators. The 2015 NEDS profile also provides more information than previous profiles on the mechanisms used to sample, collect, and analyze the household data and should be used as a reference for the national and 37 state/Federal Capital Territory reports that provide graphical representation of the data.

Data Presented in the Profile

This profile presents data from three nationally representative surveys of households conducted in 2003, 2008, and 2015. The 2003 and 2008 data sets are derived from the DHS survey, and the 2015 data set is derived from 2015 NEDS. All three surveys collected information on educational attainment and schooling status of household members, which allows for the calculation of net attendance ratios (NARs) and gross attendance ratios (GARs) disaggregated by sex, urban–rural residence, and region; the percentage of students who are under-age, the official age range (on-time), or over-age for each respective grade; age-specific schooling status of youth (attending, dropped out, or never attended); and adult primary and secondary school completion rates and educational attainment. A more detailed analysis of household demand for education services derived from the 2015 NEDS survey is available in the 2015 NEDS National Report.[1] Specific topics in the 2015 NEDS included reasons for school-aged children never having attended school or having dropped out of school, household expenditures for schooling, parents'/guardians' perceptions of the benefits of schooling and of school quality, distances and travel times to schools, and frequency of and reasons for student absenteeism.

A Supplement to Other Sources of Education Data

The DHS and NEDS measures of children's school attendance rates differ from traditional sources of international statistics, such as those produced by Ministries of Education. Statistics on children's participation in schooling usually are derived from data on children's school enrollment, which are collected from school records and used to produce net enrollment ratios (NERs) and gross enrollment ratios (GERs).

NEDS, on the other hand, measures children's participation in schooling using data provided by parents/guardians on school participation (referred to as attendance), as reported from a representative sample of households. These surveys refer to net and gross <u>attendance</u> rates (as opposed to net and gross <u>enrollment</u> rates) because calculations are based on questions that ask whether children currently attend school. Although the NAR and GAR may be seen as proxies for the more commonly used NER and GER, discrepancies between attendance and enrollment ratios can be expected.

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[1] National Population Commission (Nigeria) and RTI International. 2015 *Nigeria Education Data Survey (NEDS)*. Washington, DC. United States Agency for International Development.

SURVEY IMPLEMENTATION

A. Sample Design

The eligible households for the NEDS were the same as those households in the 2013 Nigerian Demographic Household Survey (NDHS) sample for which interviews were completed and in which there was at least one child aged 2–14 years during the time of the 2013 survey. Approximately 41,000 households were interviewed in the 2013 NDHS, and the RTI International/National Population Commission (NPC) team performed a follow-up NEDS in a subset of approximately 28,000 of these households and interviewed all children in the selected eligible households. The follow-up survey inherits the definition of household from the original NDHS sample.

As the first step for designing the sample, the RTI/NPC team used the NDHS data to determine household eligibility based on the presence of a child currently aged 4–16 years (aged 2–14 years in the NDHS completed in 2013). Next, based on a series of precision and power calculations, RTI determined that the final sample size should yield approximately 2,000 completed interviews with eligible children per state, resulting in a total completed sample size of at least $2,000 \times 37 = 74,000$ child interviews. This calculation was driven by desired estimates of precision, analytic goals, and available resources. Based on the target number of children, we determined the corresponding target number of households based on the estimated number of children per household. To achieve the target number of households with completed interviews, we increased the final number of desired interviews to accommodate expected attrition factors such as addresses that could not be located, eligibility issues, and nonresponse or refusal. Given that the number of children per household is much lower in southern states, the survey team sampled additional households in those states. Recruitment of additional households was field-based, with field interviewers screening households for eligible children within the pre-selected clusters. Based on the estimated number of additional households required, prospective households were selected for screening as a proportion of the existing eligible households.

B. Questionnaires and Testing

Three out of the four 2004 and 2010 NEDS questionnaires (household, parent-guardian, and eligible child) formed the basis for the 2015 NEDS questionnaires.[2] More than 90% of the questionnaires' content remained the same as was used in previous years; for cases where there was a clear justification or need for a change in item formulation or a specific requirement for additional items, questions were updated accordingly. RTI and NPC convened two workshops to review the 2010 questionnaires. The first two-day workshop was held with the NEDS implementation team, and the second one-day workshop was held with the NEDS advisory committee. The goal of each workshop was to review the instruments and identify any needed revisions, additions, or deletions. Efforts were made to identify data fields, such as school identification numbers, that would ease integration of the 2010 NEDS data into the Federal Ministry of Education's (FMOE's) National Education Management Information System. Instrument issues that NPC identified as having been problematic in the 2010 NEDS as well as items that RTI identified as potentially confusing or difficult were proposed for revision. Specific changes proposed and included were as follows:

- removing sections on perception of teaching about HIV/AIDS in school,
- removing collection of height and weight data,
- adding socioeconomic status data,
- revising and expanding the literacy and numeracy section,
- adding questions on non-formal literacy and on safety and security within the community,
- introducing random allocation of response options to questions to reduce respondent bias, and
- removing "independent child" as a separate questionnaire and incorporating the questions into

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[2] In 2010, there were only 17 independent children out of 72,000 interviews. Therefore, it was decided to integrate the independent child questionnaire into the eligible child questionnaire, with a marker in the household schedule identifying the child as independent.

the eligible child questionnaire within the software.

When revisions to the English-language questionnaires were completed, the instruments were translated and adapted by local translators into three languages—Hausa, Igbo, and Yoruba—and then back-translated into English to ensure accuracy of the translations.[3] When the questionnaires were finalized, RTI converted the paper questionnaires into an electronic format. Using training materials developed from NEDS 2010 Plus, RTI updated the field interviewer and field supervisor training manuals to reflect administration through electronic format (i.e., tablets).

C. Pretest Activities

Because the survey used electronic tablets for the first time, the instruments in electronic version were pretested by the NPC state coordinators. RTI staff provided training to two NPC information technology (IT) staff in electronic case management before the pretest. Pretest classroom training for the state coordinators and representatives from the Universal Basic Education's Statistics Unit, FMOE's Nigerian Education Management Information System Unit, and National Bureau of Statistics' (NBS's) Household Survey Unit was held in August 2014. The pretest training served as a train-the-trainers session for the state coordinators, who would conduct the larger full-scale training session. NPC and RTI staff provided constructive feedback regarding interviewing techniques to training participants throughout these exercises, which allowed the interviewers ample opportunity to address identified issues and learn proper interviewing techniques and tablet use. After classroom training, the participants conducted practice interviews in surrounding communities. The three-day pilot enabled each state coordinator to observe 10 households. Based on the questionnaire administration, more modifications were made to the software, including adding skip patterns, translations, and the numeracy assessment.

D. Training of Field Staff

Before conducting the full-scale training, held in March 2015, RTI and NPC IT specialists configured 250 electronic tablets required for training and data collection. The set-up process consisted of two rounds of quality control (QC) checks, with each tablet allocated a field interviewer identification number; loaded with necessary applications and software; equipped with the updated Case Management System database, and provided with the four NEDS instruments (household questionnaire, eligible child questionnaire, parent or guardian questionnaire, and literacy and numeracy assessment questionnaire). NPC hired and trained a total of approximately 250 staff that included interviewers, supervisors, and QC interviewers, of whom 185 were selected as main field interviewers. The 2015 NEDS interviewers were hired from a subset of 2013 NDHS interviewers. NPC coordinators conducted the two-week classroom training for the full-scale survey, with RTI staff on site to provide technical assistance as needed. After the classroom training, regional teams conducted practice interviews in their respective regions. This regional field training took place over one to two weeks. In addition, field editors and QC interviewers received additional training to review proper auditing and field observation techniques.

The first eight days of the main training consisted of a series of training sessions for field supervisors and field interviewers. NPC state coordinators and RTI staff led the training. In addition, representatives from FMOE and the Universal Basic Education Commission and staff from the NBS were in attendance. A debriefing between RTI staff and NPC state coordinators was held at the end of each day to review the questions and answers that arose during the training session and to ensure that all 2015 NEDS study protocols were followed. After the classroom training was finished, for three days the trainees contacted households and obtained household members' cooperation to conduct practice interviews in English, Hausa, Yoruba, and Igbo. The final day of training consisted of the wrap-up and discussion of issues specific to operating the electronic tablets.

Based on feedback from the training, a few modifications were made to skip patterns, language, and administrative flow. In addition, questions related to internally displaced people and specific reasons to start school early were added. At the end of training, field interviewers were provided tablets pre-

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[3] The literacy and numeracy questionnaires were also translated into Arabic.

loaded with location information of pre-identified households, as well as a number of blank cases that equaled the number of additional households needed to be recruited in the field, based on the sampling process described above.

E. Fieldwork

Data collection began on May 11, 2015. A media campaign promoting awareness of the data collection activity, aimed at the general population, accompanied the debut of field work.

Through its past experience with field surveys such as NDHS, NEDS, and the Nigerian National Census, NPC has developed a field team structure that strives to maximize data quality. This same data collection team structure was used for the 2015 NEDS. Specifically, field interviewers were organized into survey teams, one for each of the 36 states and one for the Federal Capital Territory. NPC coordinated and supervised field operations for all 37 teams, each comprising three field interviewers, one field supervisor, and one driver. In addition to the survey team, each state was assigned one QC interviewer, often the same person who held the field editor or supervisor position. The QC interviewers trailed the state teams to revisit and re-interview approximately 10% of all completed households. The QC interviewers conducted verification visits during the first two weeks of data collection, and then for two weeks of every month of data collection thereafter. Finally, three meetings were held with all state coordinators to receive feedback on the use of electronic administration, problem solve for IT-related issues, and provide an additional mechanism to transfer data electronically to NPC.

Coordinators who conducted the main survey training also oversaw operations of the field activities in their two assigned states. They monitored field activities in their states and were responsible for providing NPC's NEDS project director with feedback and updates on field team activities. Coordinators received weekly status reports on the reported completion of household interviews from field interviewers. Status reports included information on household interviews that were completed, were not yet started, or were marked incomplete. Coordinators periodically traveled to visit teams in the field to provide specific feedback and re-training as needed based on these reports. In particular, issues related to sampling and to prematurely closed interviews were addressed through site visits.

F. Data Processing

For the 2015 NEDS, electronic tablets were used to capture data from interviews instead of the traditional "paper and pencil" approach. Data checks and other QC measures were built in to the tablet application to ensure the collection of high-quality data. Collected electronic data records were encrypted and transmitted from the tablets to cloud-based storage via a wireless network. RTI, with support from NPC, conducted QC checks and data cleaning. Data collected were made available to both RTI and NPC staff as it was uploaded to quickly identify and correct any system application issues that could impact data quality.[4]

Additional steps were required to prepare the data for preliminary analysis. As noted previously, the sample of households for 2015 NEDS was based on that of the 2013 NDHS. Consequently, RTI was able to develop weights for the 2015 NEDS by starting with the 2013 NDHS household weights. The weights were adjusted to account for known unequal probabilities of selection and variable nonresponse. Finally, the sample data were calibrated to known population totals

An important correlate of education and literacy outcomes is a measure of household wealth. A wealth index was derived for each household based on its characteristics and ownership of certain items by its members, following a similar procedure to that of the 2013 NDHS. The results using the 2015 NEDS data indicate a similar distribution of wealth quintiles across urban and rural residence areas.

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[4] Final household and questionnaire dispositions are provided in Appendix 2.

1. SURVEY RESULTS

The following key findings use data from the Nigeria DHSs that were conducted in 2003 and 2008.[5] Instead of the 2013 NDHS, data from household interviews of the 2015 NEDS were used. For overall net and gross attendance only, data from the 1990 DHS have been included.[6]

1.1 Key Findings

There has been a moderate increase in primary school attendance from 1990 to 2015.

- In 2015, 68% of primary school-aged children attended primary school compared with 61% in 2008, 60% in 2002, and 51% in 1990.
- Males aged 6–11 years are only slightly more likely than females to attend primary school (68% versus 67%); this gender gap reflects the data from 1990, but is a considerable improvement over 2003 and 2008.

There has been a steady increase in rates of attendance among youth aged 12–17 years over time, such that by 2015, more than half of students aged 12–17 years attended secondary education (junior and senior secondary schools).

- The percent of youth aged 12–17 years that attended secondary school increased from 24% in 1990 to 35% in 2003, and then to 44% in 2008 and finally to 56% in 2015.
- Although male youth of secondary school age were slightly more likely than female youth to attend secondary school in 1990, by 2015, 57% of females were likely to be attending secondary school compared with 55% of males; therefore, reversing the gender gap.

Despite overall gains in attendance rates over time, regional disparities persist, with the North East and North West regions' primary school attendance rates remaining about half those of southern regions.

Rural primary NARs have remained constant (56% in 2003, 55% in 2008, and 59% in 2015). In contrast, urban primary NARs have seen an increase from 70% in 2003 to 81% in 2015. While rural secondary NARs have shown growth from 39% in 2003 to 46% in 2015, urban secondary NARs have grown even faster, from 46% in 2003 to 70% in 2015.

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[5] The 2003 survey was administered to 7,225 households, and to 7,620 women aged 15–49 and 2,346 men aged 15–49 from those households. The 2008 survey was administered to 34,070 households, and to 33,385 women aged 15–49, and 15,486 men aged 15–49 from those households.
[6] The 1990 DHS information comes from the 2003 profile report. It was dissimilar enough in question and survey design to preclude most comparisons except the overall attendance rates.

2. PRIMARY SCHOOL ATTENDANCE RATIOS:[7]
1990, 2003, 2008, AND 2015
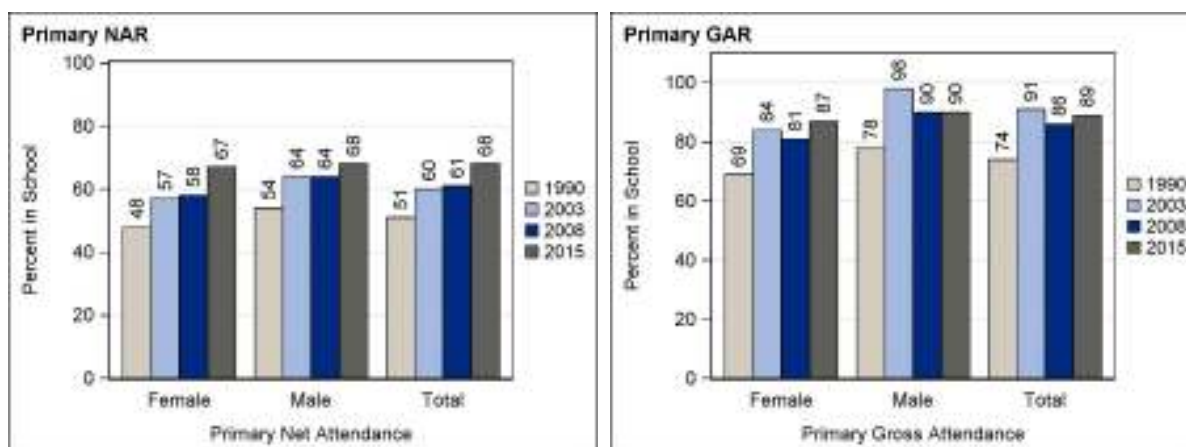
> **NAR is the percentage of the official primary school-aged population (aged 6–11 years in Nigeria) that attends primary school. GAR is the total number of students attending school—regardless of age—expressed as a percentage of the official school-going age. The GAR is higher than the NAR because of the presence of over-aged or under-aged children.**

2.1 Primary School NAR

The percentage of children aged 6–11 years attending primary school increased from 1990 to 2015.

- In 2015, 68% of school-aged children in Nigeria attended primary school, a steady increase from 51% in 1990.

School-aged males continue to be somewhat more likely than females to attend primary school, but the gender gap has narrowed.

- The rate of primary school attendance among school-aged males in 2015 was 68% compared with 67% for school-aged females for the same period. The gap of 1% is smaller than the 7% gap in 2003 and similar to the 4% gap observed in 1990.

2.2 Primary School GAR

Many of the children attending primary school are outside of the official age range (as reflected in the difference between NARs and GARs). This can influence the availability of educational infrastructure, the experience in the classroom, and education planning.

The GAR increased from 1990 to 2003 and has since remained fairly constant. The slightly lower GAR in 2015 may reflect a decline in the proportion of children outside (either younger or older than) the official school age range of 6–11 years old, which may be attributable to the decline in over-aged students as more children start attending school on time.

- In 2015, students older or younger than the official primary school age range made up 23% $[(GAR87 - NAR67)/GAR87]$ of the primary school population compared with 29% in 2010, 34% in 2003, and 27% in 1990.

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[7] Appendix 1 provides definitions and calculations of various rates cited.
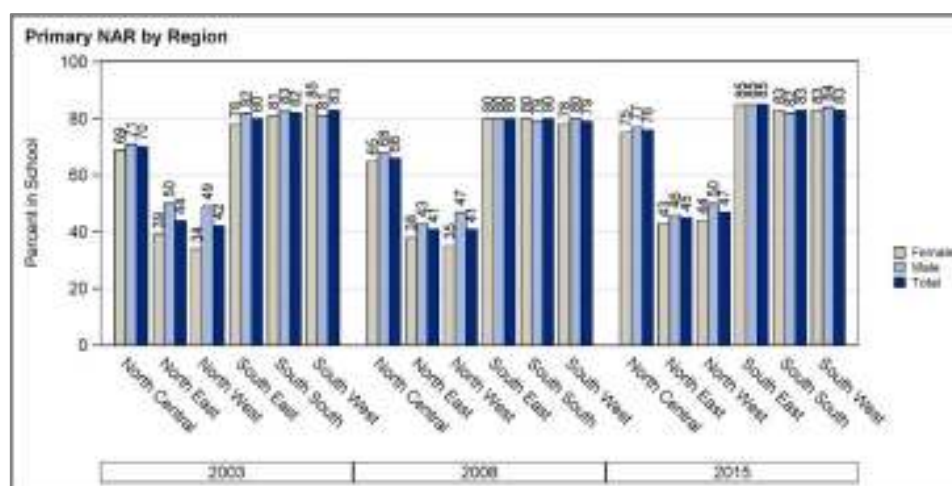
3. PRIMARY SCHOOL NAR
BY URBAN‑RURAL RESIDENCE: 2003, 2008, AND 2015

Over time, children aged 6–11 years in urban areas remain more likely to attend primary school than children of the same age range in rural areas.

- In 2015, 81% of children aged 6–11 years in urban areas attended primary school, compared with 59% in rural areas.
- Between 2003 and 2015, the NAR in rural areas essentially remained constant, whereas the NAR in urban areas increased by 11 percentage points, from 70% to 81%.
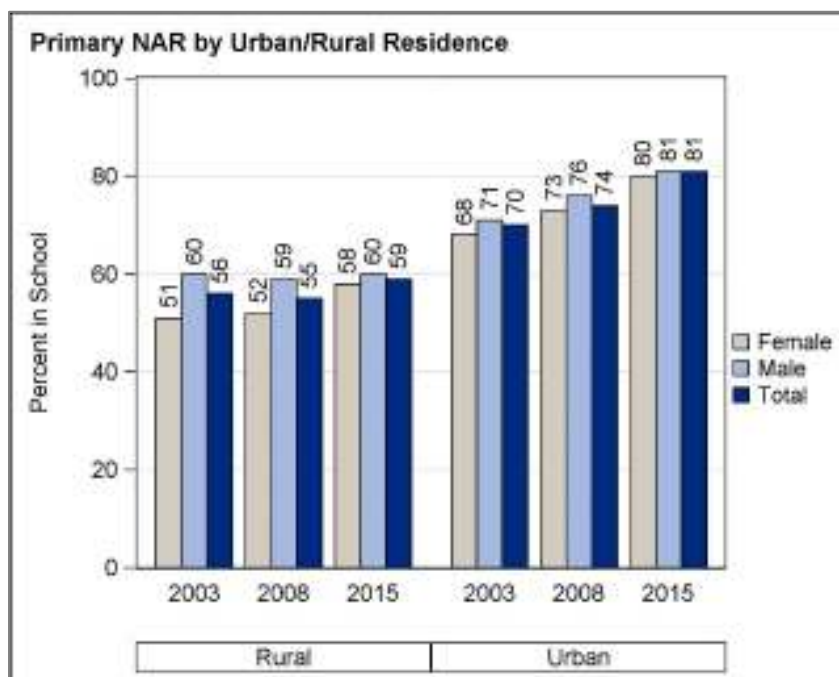
4. PRIMARY SCHOOL NAR BY GEO-POLITICAL ZONE: 2003, 2008, AND 2015[8]

The pattern of large regional disparities in the rate of primary school attendance in Nigeria has not changed over time, despite some minor fluctuations in regional school attendance rates.

Gender parity has improved slightly in all regions. In the South East, South South, and South West regions, females and males attend primary school equally.

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[8] The 2003 and 2008 NDHS provides the secondary school NAR by region for each of Nigeria's six regions. In 1990, however, the survey provided estimates for four regions, which do not correspond to the six regions used in 2003. Consequently, this profile compares data by region only from 2003, 2008, and 2015.