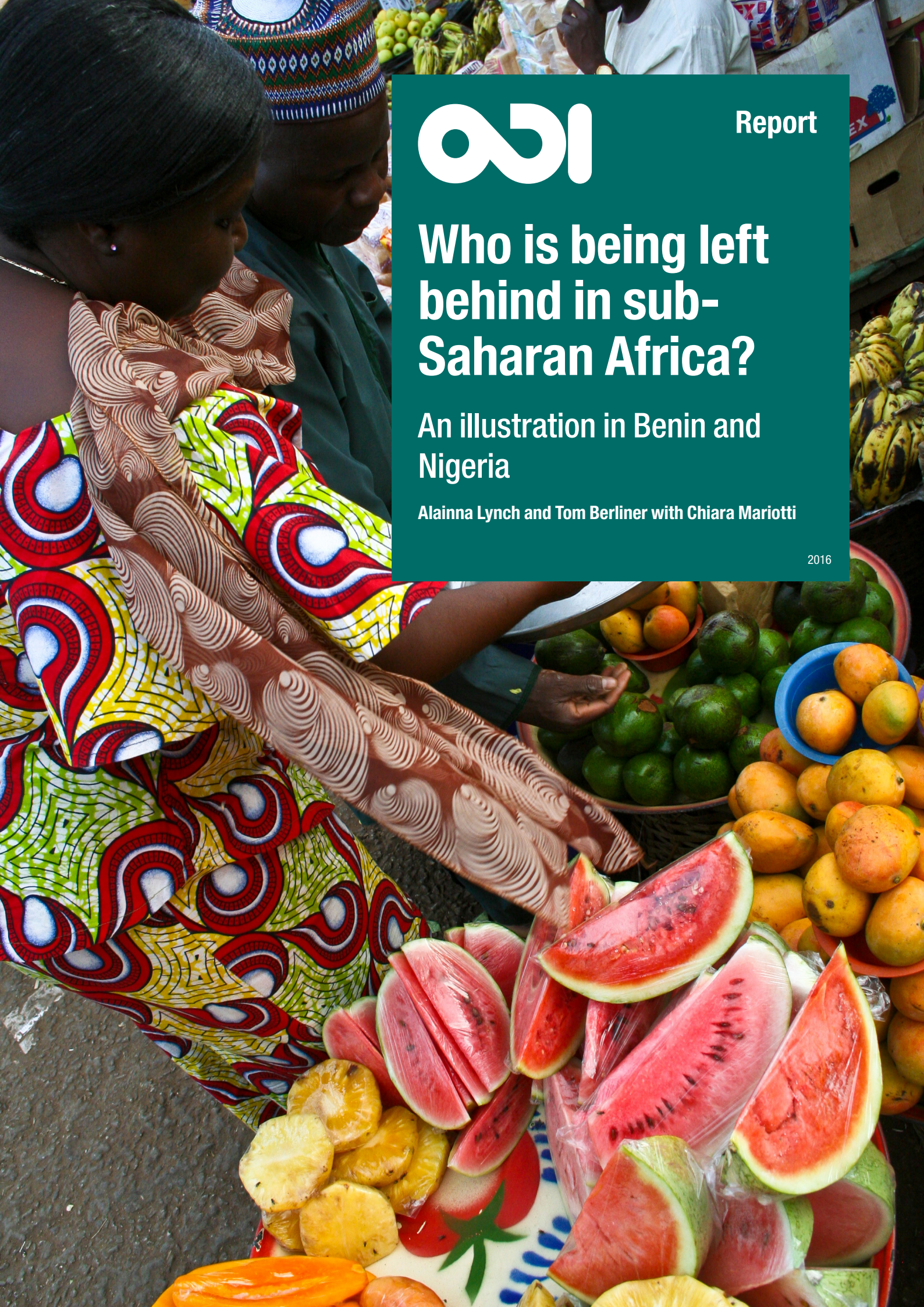

Report

Who is being left behind in sub-Saharan Africa?

An illustration in Benin and Nigeria

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Key messages

- The Sustainable Development Goals (SDGs) state that progress must leave no one behind. This paper is one of a series setting out the first step along the road to implementing this agenda – the step of identifying marginalised communities.
- Ethnicity and wealth are key markers of social exclusion in sub-Saharan Africa. Using household survey data for Benin and Nigeria, this paper identifies the gaps based on three characteristics in a number of outcomes relating to key SDG targets.
- In Benin, access to electricity is strongly linked to relative wealth. In 2013 98% of households in the top quintile had it, compared to less than 1% in the bottom quintile.
- In Nigeria, ethnic inequalities between the Hausa, Fulani, Yoruba and Igbo are substantial. The relatively impoverished Fulani are eight times less likely than Yoruba to have access to sanitation, three times less likely to have had a substantial education and more than twice as likely to belong to the bottom wealth quintile.

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Acronyms

AfDB African Development Bank Group
DHS Demographic and Household Survey
GDP Gross Domestic Product
HDI Human Development Index
HRW Human Rights Watch
ILO International Labour Organization
IMF International Monetary Fund
LNOB Leave No One Behind
MDG Millennium Development Goal
OECD Organisation for Economic Co-operation and **Development**
SDG Sustainable Development Goal
SNNPR Southern Nations, Nationalities and Peoples' Region
UN United Nations
UNDESA UN Department of Economic and Social Affairs
UNDP UN Development Programme

Introduction

Although economic growth in sub-Saharan Africa has been remarkable in recent years, rising inequality has accompanied it. Per capita incomes in the region have been rising at 3.2% per annum since 2000, faster than the rate of population increase, for the first time in 30 years (Kaberuka, 2013). Yet this growth has not been evenly distributed across the population. Since 2000, the incomes of the bottom 40% have grown more slowly than the regional average, albeit marginally (Nicolai et al., 2015). The Gini coefficient moved from 0.42 to 0.50 between 2006 and 2013 alone (ibid.). There is, of course, great variation. Inequality is highest in Southern Africa, but countries with wide disparities in wealth and living standards can be found across the continent (AfDB, 2012).

Within countries, considerable disparities persist between urban and rural areas, men and women, and ethnic groups. Group-based inequalities emerge not only in income but also in various other aspects of development, such as education, housing and access to services. These inequalities result in the systematic exclusion of some groups, as multiple forms of deprivation overlap and reinforce one another. The Millennium Development Goal (MDG) experience demonstrates it is inadequate merely to state that targets must be met while focusing on aggregates (Kabeer, 2011a; Melamed, 2012; UN System Task Team). Going forward, countries need to focus on improving the lives of those most in need.

The aim to 'leave no one behind' (LNOB), central to the Sustainable Development Goals (SDGs), responds to this growing concern. The Goals emphasize the responsibilities of all States… to respect, protect and promote human rights and fundamental freedoms for all, without distinction of any kind as to race, colour, sex, language, religion, political or other opinion, national or social origin, property, birth, disability or other status" (UN, 2015). Melamed (2015) has proposed that countries commit to identifying their most marginalised populations within the first three years, as well as preparing a global LNOB summit where countries would share experiences and make commitments to implement policies which address the vulnerabilities disadvantaged people face.

This paper, one of a series of regional briefings that aim to give concrete examples of the nature of groupbased inequalities and how to implement this principle of LNOB in practice, is a first attempt to do this. It identifies a marginalised group for each of two countries in sub-Saharan Africa – Nigeria and Benin – and, using Demographic and Household Survey (DHS) data (2006 and 2012 in Benin; 2008 and 2013 in Nigeria), provides new empirical evidence to show how members of certain groups are being held back from achieving progress. With a focus on group-based identities, we explore national data to show how these identities are linked to inequalities in wellbeing. Following the literature, and initial findings from our data analysis, we chose to focus on wealth inequalities in Benin1 and ethnic minorities2 in Nigeria – both are key markers of social exclusion across sub-Saharan Africa (Kabeer, 2011a).

On the surface, the two countries exhibit relatively similar pictures of inequality. Both have a moderate level of consumption inequality by regional standards, as measured by the Gini index (Figure 1) and both have experienced small increases in their Gini score over the 2000s (Figure 2).

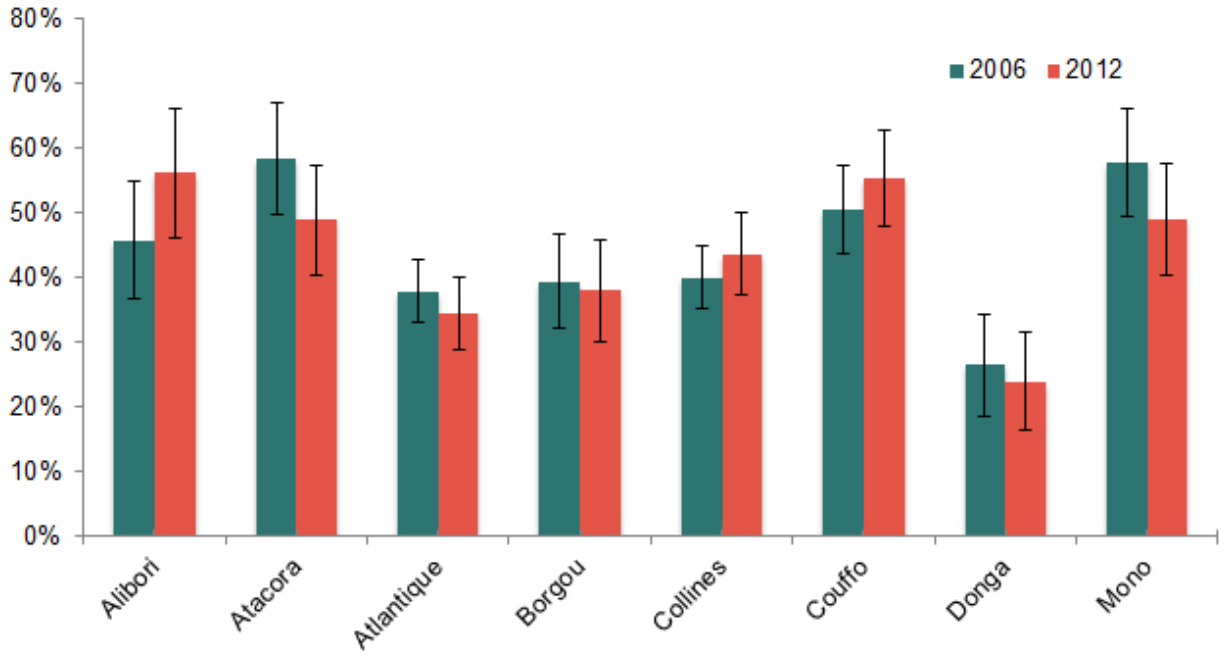
Yet the countries themselves are very different. Both are former European colonies, sitting on the Gulf of Guinea in West Africa, with post-colonial histories featuring both stability and political turmoil. However Nigeria is a vast land whose population is over 17 times the size of Benin.

The two countries feature very different ethnic, religious, economic and geographical fissures and within these countries, group-based inequalities have different causes, characteristics and identities.

1 Although the SDGs discuss income inequality, DHSs do not contain questions on income or consumption. The closest proxy for income on these surveys entails indicators of wealth. DHSs measure wealth distribution by looking at individual and household assets. This study thus looks at wealth inequality as a proxy for income inequality.

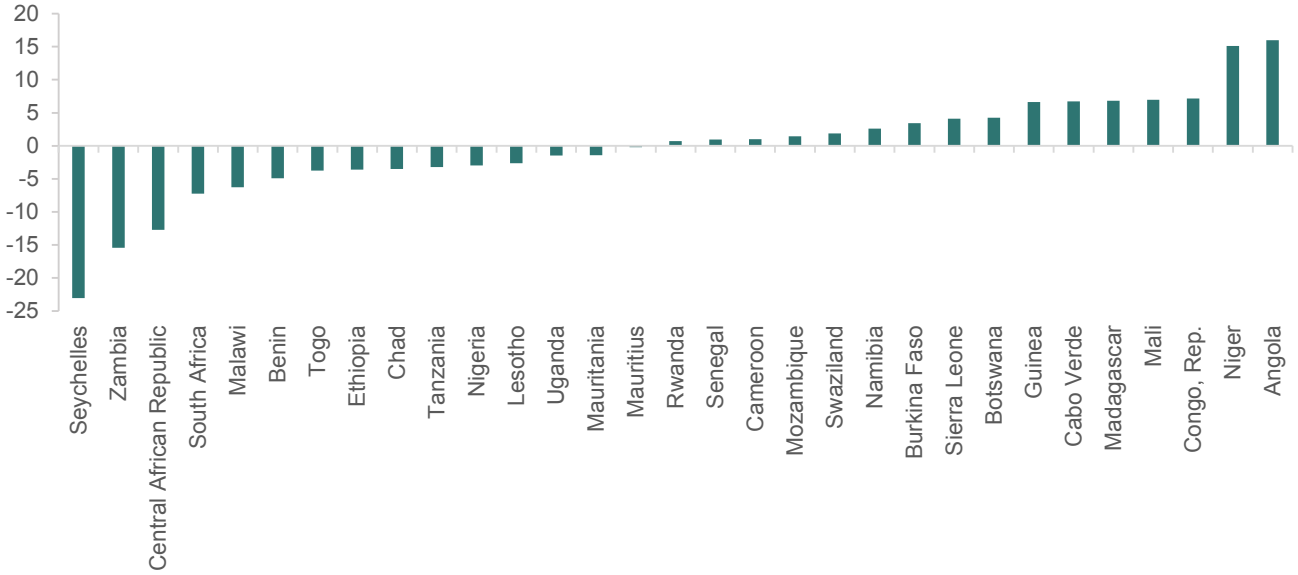
2 Ethnicity is a fluid social construct that can change over time. Individuals can, at times, maintain several ethnic affiliations. Where this study describes ethnicities, it refers to ethnicity as self-reported by DHS respondents.

Figure 1: Latest Gini coefficient, sub-Saharan Africa



Note: Not all regions are shown above.

Figure 2: Change in Gini in sub-Saharan Africa, 2000s



Box 1: A note on the methodology

The analysis presented in this briefing is based on an analysis of DHS data for Benin and Nigeria. These contain a wealth of valuable information but also some limitations in terms of identifying the most marginalised groups. Some of these apply generally to most household surveys. For example, by design, household survey sampling frames tend to exclude the homeless, people in institutions and mobile, nomadic or pastoralist populations; in practice, they also tend to underrepresent people living in urban slums, dangerous places and fragile or transient households (Carr-Hill, 2013). DHSs are nationally representative surveys conducted independently by each country, and they replicate many but not all variables across countries and years. For example, Benin did not measure access to electricity in 2006, although it did in 2012. Other times, even when variables are replicated, country context prevents analysis across time. For example, although Benin included sanitation in 2006, there were too few respondents with access to improved toilets (N<100) to allow for rigorous analysis.

As in any survey, there are also limitations as to the topics covered. For example, health outcomes are most heavily focused on young children and mothers, which can make estimating outcomes for older adults or comparing men and women difficult. Furthermore, rather than data on income, the DHS provides an asset index, based on durable consumer items and access to services, broken down into quintiles (described in this paper, following convention, as 'wealth quintiles'). This means that relative or group-based changes can be measured, but understanding growth or decline using absolute levels would require additional steps. Measuring assets, rather than income or consumption, has advantages and disadvantages. As a 'stock' variable, it may give a longer term measure of household wellbeing. However, it has also been criticized as being a poor proxy for consumption. Because these asset indices include access to clean fuel, electricity, and improved sanitation and water, regression analysis is not conducted to assess the relationship of wealth quintile to access to these services. Finally, many outcomes require respondent recall and self-reporting, which can lead to bias as well (Manesh et. al., 2008). A more complete analysis would entail going beyond nationally representative household surveys statistics to use participatory research methods such as focus group discussions.

With these limitations in mind, the analysis in this paper aims to identify the extent of group-based inequalities in Benin and Nigeria. We selected indicators in a range of outcomes that can be illustrative of key SDG areas – namely, wealth (asset) poverty, household services (access to water, sanitation and clean cooking fuel), education and, where possible, health outcomes (see Appendix 2 for a complete list of the indicators used in each country). Although the SDGs cover issues beyond these, data in the surveys were insufficient to comprehensively look at all the indicators they feature.

The method adopted is to first present descriptive statistics – outcomes associated with different groups – and then to estimate the probability of having a certain outcome conditional on the characteristics of a person or household, including their racial/ethnic group. We did this through a regression model for binary (yes/no). In addition to ethnicity and wealth group markers, the characteristics used as control variables were place of residence (rural/urban) and subnational region. For outcomes measured at the individual level (as in the case of years of education), the regressions also control for the gender and age of the individual. The advantage of this approach, compared with a more simple description of average outcomes for different groups, is it allows us to isolate the effect of wealth or ethnic status from that of the other individual characteristics that may influence outcomes. In addition, differences cutting across groups can be large. Group identities can 'intersect' with some other characteristics, and they can overlap to reinforce exclusion. For example, the actual effect of 'ethnicity' may vary based on where the person lives or their gender. Consequently, to avoid obscuring some differences within groups, the analysis also tests whether selected intersections of interest affect outcomes.

The results are reported in terms of the predicted probability – the likelihood of having a certain outcome for households or people belonging to different groups or at the intersection of two groups. For instance, to estimate the difference being Yoruba or Fulani makes in having, say, access to electricity in Nigeria, we first calculate the likelihood of the outcome for all individuals as if they were Yoruba. The same is repeated as if all individuals were Fulani. The difference between a base category (Yoruba) and Fulani can then be calculated.

Appendix 1 presents a more technical description of the methodology.

Wealth and wellbeing in Benin: the fortunes of the poorest

Benin is a relatively small country of just 42,000 square miles. Huge demographic change in the past 30 years has seen the population increase to around 10 million. Half of the population lives in extreme poverty (under $1.25 a day) (World Bank, 2015).

While on the surface the country's relatively low level of consumption inequality and its high level of poverty would suggest it is a uniformly poor country with little variation in development and living standards across ethnicities, genders and location, this study shows otherwise.

Benin's economy has grown strongly since the 1980s and its reforms under structural adjustment, averaging over 4% annually (World Bank, 2015), and is projected to achieve around 5.5% growth in 2015 and 2016 (IMF, 2015). The shift to a multi-party democracy has been table and helped fuel economic liberalisation. Economic growth has almost always outpaced population growth in this period, with Benin faring better than most of its West African neighbours. At the same time, progress on most social indicators has been strong: Benin's Human Development Index (HDI) score has risen consistently over the past 30 years. Between the years of our DHSs, the HDI score climbed from 0.43 to 0.47. Benin is on an upward trajectory in terms of national development.

However, economic growth and a consequent rise in living standards for some has seen inequalities rise, as already relatively better-off groups have captured the benefits of that growth (World Bank, 2014b). Economic growth has not resulted in a reduction in poverty, which, as measured by the $1.25 a day indicator, has increased in recent years. The proportion of the nation living under $1.25 a day increased from 47% in 2003 to 52% in 2011, alongside strong economic growth (World Bank, 2015). The Gini index increased from 0.39 to 0.44 in the same years (ibid.).

As mentioned above, Benin has successfully improved its HDI score in recent years: it was one of the three best performers in the 1990s (World Bank, 2003) and has continued to rise ever since. However, the HDI, like all averages, masks inequality in the distribution of human development across the population at the country level (UNDP, 2014). Benin's 'inequality-adjusted HDI'3 for 2012 moved from 0.44 to 0.28 when taking into account inequality. This is a 35.8% fall as a result of Benin's inequality in distribution on these indices. The average loss owing to inequality for low HDI countries is 33.5% and for sub- Saharan Africa it is 35% (UNDP, 2013).

Against this backdrop, this section illustrates inequalities by focusing on different wealth groups and changes to their living standards and development outcomes over time.4 The following sections look at the intersection of wealth and other group characteristics like ethnicity, location and gender.

Wealth

Key findings

- The likelihood of being in the bottom 40% of society is greatly dependent on urban/rural and regional location. Those in rural areas, the Alibori , Atacora and Couffo regions and the Betamaribe, Yoa and Puelh ethnicities all faced a far higher likelihood of being in the poorest 40% (relative to urban areas, the Littoral region and the Dendi ethnicity, respectively).
- Inequalities between urban and rural areas increased significantly in both relative and absolute terms and in the Alibori, Couffo and Collines regions, the likelihood of being in the bottom two quintiles has increased over time.

3 The Inequality-adjusted Human Development Index (IHDI) adjusts the Human Development Index (HDI) for inequality in the distribution of each dimension across the population. The IHDI score equals the HDI when there is no inequality across people but falls below the HDI as inequality rises. In this sense, the IHDI is the level of actual human development in a country when inequality is accounted for

4 Unless otherwise stated, all tables, graphs and figures in this section are the authors' calculations based on Benin's DHSs in 2006 and 2012

Bottom 40%

We used likelihood of being in the bottom two wealth quintiles to proxy deprivation.5 Inequalities between urban and rural areas increased significantly in both relative and absolute terms; 57% of rural households were in the bottom 40% in 2012, compared with 16% of urban households, and 53% of rural households in 2006.

Regional inequalities were also stark. In 2012 in Littoral, less than 1% of households were in the bottom quintile; in Alibori and Atacora, 73% and 72%, respectively, were in the bottom two quintiles. The percentage increased ove time for Alibori, where in 2006 54% of households were in the bottom quintile (Figure 3).

The percentage in the bottom 40% increased significantly in four other regions:

Collines (46% from 40%), Couffo (54% from 48%), Borgou (49% from 45%) and Queme (25% from, 22%) – although the absolute rate for Queme was still lower than for all regions besides Littoral.

There were also small changes by ethnicity. In 2012, 82% of Betamaribe and Puelh were in the bottom two quintiles (compared with 42% of Dendi). There were small but significant increases from 77% and 78%, respectively, in 2006. The share of households in the bottom 40% in Bariba increased from 37% in 2006 to 55% in 2012, a relative and absolute increase compared with the Dendi (Figure 3).

Table 1: Population by group, 2006 and 2012 (%) (DHS data)

Category	Group	2006	2012
Place of residence	Rural	37.69	41.73
	Urban	62.31	58.27
Gender	Male	48.66	49.42
	Female	51.34	50.58
Subnational region	Littoral	8.49	12.34
	Alibori	7.46	6.24
	Atacora	7.36	9.19
	Atlantique	11.18	11.80
	Borgou	9.68	8.54
	Collines	7.64	6.96
	Couffo	8.33	7.02
	Donga	4.78	4.97
	Mono	5.72	5.37
	Queme	12.92	12.05
	Plateau	5.34	6.42
	Zou	11.10	9.09
Race/ethnicity	Dendi and related	3.27	3.08
	Bariba and related	8.54	9.94
	Fon and related	42.70	44.37
	Yoa and Lokpa and related	3.83	3.58
	Betamaribe and related	6.50	7.04
	Puelh and related	5.60	4.35
	Yoruba and related	10.66	11.16
	Other	18.91	16.49
Total observations		105,878	102,222

5 We used the bottom two quintiles because there was too much collinearity to develop predictive models with just the bottom quintile. Bottom 40% is still fewer than the number of households living under the $1.25/day poverty line (52%)

Figure 3: Percentage in bottom 40% by ethnicity and region, 2006 and 2012

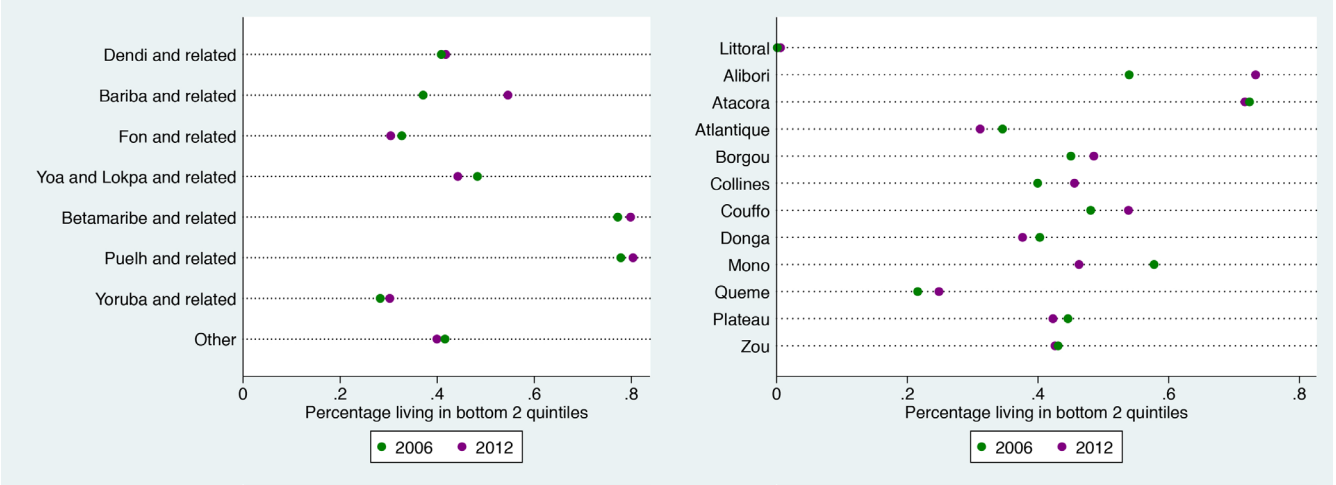


Figure 4: Likelihood of being in the bottom 40%, compared with Littoral region, 2006 and 2012 (%)

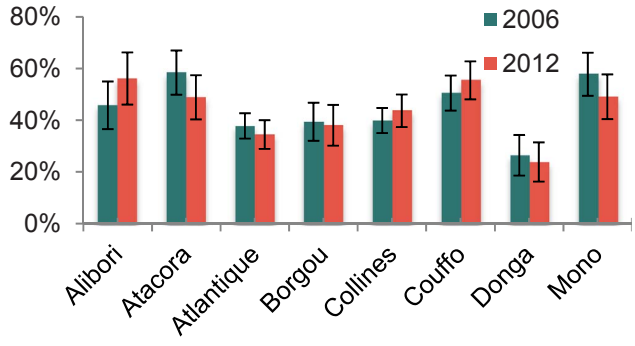
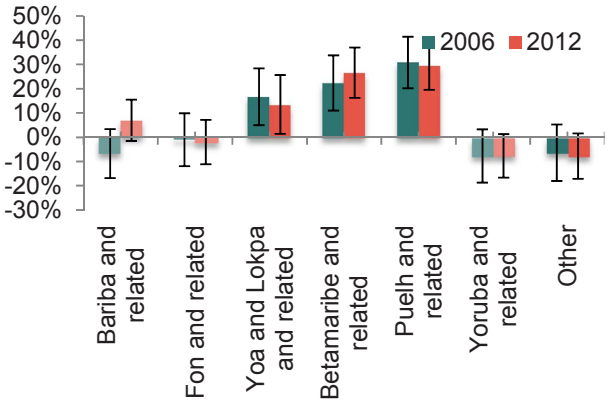


Figure 5: Likelihood of being in bottom 40% by ethnicity, compared with the Dendi, 2006 and 2012 (%)



The likelihood of being among the bottom 40% of households was significantly larger for those in rural areas. In 2012, the probability of being in the bottom two quintiles was 28 percentage points higher for households in rural areas than for those in urban areas and this did not change over the six-year period. Region was also a significant predictor of being in the bottom 40%. In some regions, like Couffo and Alibori, households were over 50 percentage points more likely to be in the bottom two quintiles; in other regions, like Donga and Queme, they were approximately 20 percentage points more likely.

There were also significant inequalities by ethnicity (Figure 5). Households belonging to the Betamaribe, Yoa and Puelh were significantly more (14, 27 and 30 percentage points, respectively) likely to be in the bottom 40% then were those among the Dendi.

Note: Not all regions are shown above.

Access to basic services

Electricity and fuel

Key findings

Access to electricity is strongly linked to relative wealth.

- In 2013 98% of households in the top quintile had electricity compared with less than 1% of households in the bottom quintile.
- Use of clean cooking fuel is extremely limited in Benin, rising from just 4% in 2006 to 5% in 2012. This is almost entirely the preserve of the richest quintile in Benin.

There were no data on access to electricity in 2006, so this section describes 2012 levels of access to electricity, and inequalities therein. Approximately a third of Beninese had access to electricity (36%). Inequalities by quintile are striking (Figure 6). Over 98% of households in the top quintile could access electricity, but less than 1% of the bottom quintile, and less than 4% of the second quintile.

The middle and fourth quintile had access rates of 18% and 62%, respectively. There are also inequalities through location. Overall, 15% of Beninese in rural areas and 67% in urban areas had access to electricity.

From 2006 to 2012, access to clean cooking fuel increased only marginally, from 4% to 5%. There were some gains over time, but this was mostly for households in the top quintile, which increased access to clean cooking fuel from a rate of 17% to 23%. Over 98% of the bottom 80% did not have access to clean fuel in 2012 (Figure 7).

Similarly, households living in rural regions had very low access rates, 1% in 2012, compared with 11% in urban areas. Regionally, households in Littoral had the highest rate of access in 2012 at 25%, an increase of 4% from 2006. On the other hand, a number of regions had virtually no access in 2012 (<5%): Alibori, Atacora, Collines, Couffo, Donga, Plateau, Mono and Zou.

Similarly, only among the Yoa and 'Other' ethnicities did more than 5% of households have access to clean fuel.

Water and sanitation

Key findings

- Inequalities in access to improved water across wealth quintiles remain high – for example, the rate of access among households in the top quintile was 35 percentage points higher than for the bottom quintile and a gap of nearly 40 percentage points separated the highest and lowest region.
- In 2012, approximately 77% of Beninese had access to improved water sources, an improvement from 69% in 2006. There is inequality in access by quintile, ethnicity, location and region. The rate of access among households in the top quintile was 35 percentage points higher than for the bottom quintile, and 24 percentage points higher than for the second quintile.

Inequality in access to improved water was also significant across all regions. Rates of access ranged from 99% for Littoral to 58% for Alibori and 60% for Donga in 2012.

Access to an improved water source increased across regions, but differences remained significant.

Less than a tenth of 1% percent of Beninese had access to improved sanitation in 2006. For this reason, analysis here is limited to the state of sanitation in 2012. A very limited 6% of Beninese had access to improved toilets. Like all services, inequalities were most acute across quintile, with 26% of the top quintile having access compared with less than 5% for the remaining 80%. Similarly, 30% of residents in Littoral region had access, compared with less than 1% in Alibori. Urban/rural differences were also significant, with 14% of urban residents having access, compared with 1% of rural residents.

Education and health

Key findings

- More and more young Beninese are attending school. However, overall school attendance is still low, at 30%, and education poverty is high, at 50%.
- While attainment is increasing, gaps in terms of 'education poverty' (having four or fewer years of education) have grown across regions, ethnicities and wealth quintiles. The bottom four quintiles are far more likely to be in education poverty than the top quintile as are rural residents, relative to those in urban areas. Disparities have increased in many cases.
- Gaps in school attendance are closing overall, but persist across wealth quintiles, location and gender. The most disadvantaged regions and ethnicities, namely Alibori and Betamaribe, are being left behind in terms of school attendance.
- Gaps between women and men are smaller and decreasing, especially in school attendance. In 2012, girls were 6 percentage points less likely to be in school and were 25 percentage points more likely to be in education poverty.
- Mosquito net usage has increased over time, with greatly reduced gaps across wealth quintiles. Inequalities have also significantly decreased by location and region.
- Stunting rates, although stable overall, have increasedsignificantly among the top wealth quintiles and in certain regions. The poorest quintiles have seen only minor improvements to stunting rates. However, this equates to greatly reduced inequality in stunting.

Education poverty

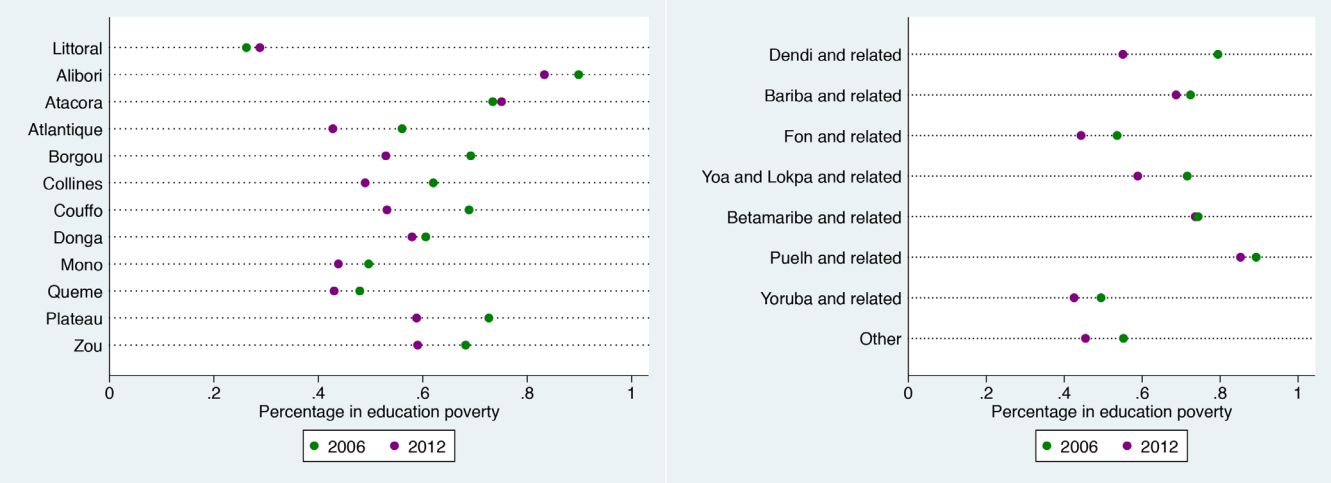
We examine the distribution of education poverty and school attendance among different groups in the population of Benin, as well as changes over time. Using both indicators presents a picture of how education outcomes are changing.

Poverty focuses on adults who have already moved through schooling and can provide information about a skilled workforce. School attendance provides information about current trends in schooling. The education poverty analysis should be interpreted with caution, as the response rates for both 2006 and 2012 were low.[6]

By 2012, half of Beninese were in education poverty, down significantly from 58% in 2006. Approximately 41% of men and 71% of women were in education poverty in 2006; by 2012, the gender gap had decreased slightly to 26 percentage points. In 2012, the rate of education poverty for the highest quintile was 62 percentage points lower than the rate for the lowest quintile, and the difference was the same as in 2006 (61%); both quintiles increased but

6 Observations are limited as measures pertain only to adults aged 20-24; there were 5,971 observations in 2006 and 5,385 observations in 2012.

Figure 6: Rates of education poverty, by region and ethnicity, 2006 and 2012 (%)



not significantly. The three middle quintiles decreased their education poverty rates significantly over the period, by between 9 percentage points and 16 percentage points.

There were significant differences by location. Education poverty in urban areas was 28 percentage points lower than in rural areas in 2012, down slightly from 31 percentage points in 2006, although the rate decreased significantly in both. Education poverty decreased in almost all regions and ethnicities, although not all changes were significant (see Figure 6). However, those ethnicities and regions with the highest rates of education poverty improved the least, such that the gap between these regions and other regions grew. By ethnicity, the Dendi education poverty rate decreased significantly, from 79% to 55%.

However, the Puelh, Betamaribe and Bariba had 2012 rates at or above the 2006 rates of other regions (with no significant change over time). Similarly, by region, the gap is widening for the most disadvantaged regions: rates decreased significantly in many regions, but in Alibori and Atacora the 2012 rate was above the 2006 rates of other regions (although Alibori had a significant decrease in its education poverty rate, from 90% to 83%).

Overall, the likelihood of a woman being in education poverty was significantly higher than it was for men: 25 percentage points in 2012, down from 28 in 2006. There were significant differences by location as well. Those in rural areas were 6 percentage points more likely to be in education poverty (unchanged since 2006). Several regions were more likely to be in education poverty than Littoral in 2006, but by 2012 in none of these was the difference significant, with the exception of Collines, where individuals were significantly less likely to be in education poverty in 2012 than Littoral. There was a similar pattern by ethnicity: by 2012, only the Betamaribe were significantly more likely to be in education poverty than the Dendi, by 19 percentage points.

There were significant differences in the likelihood of being in education poverty by quintile. In 2012, the bottom quintile was 56 percentage points more likely to be in education poverty than the highest quintile. These differences were significant across all quintiles, with even the fourth quintile 21 percentage points more likely to be in education poverty than the top quintile (down from 22% in 2006) (Figure 10). These likelihoods have not decreased over time. When quintiles are broken down by location, clear differences emerge. In particular, inequalities increased over time for rural residents. In 2006, a rural resident in the bottom quintile was 47 percentage points more likely to be in education poverty than someone in the top quintile; by 2012, this probability had increased to 63 percentage points. In fact, across quintiles, the likelihood of being in education poverty increased for rural residents compared to the top quintile (Figure 7).

School attendance

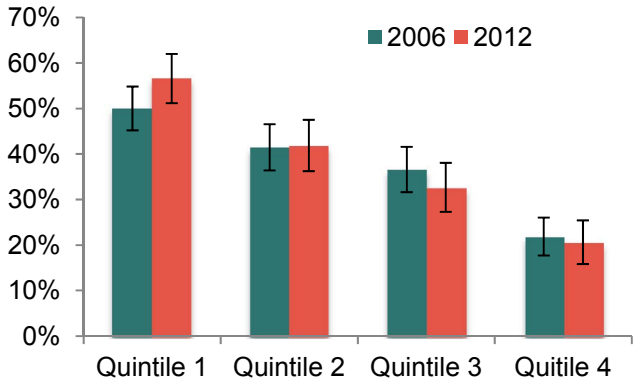
Nationally, about 30% of school-aged children attended school in 2012. The rate of attendance had increased significantly, by about 5 percentage points since 2006.

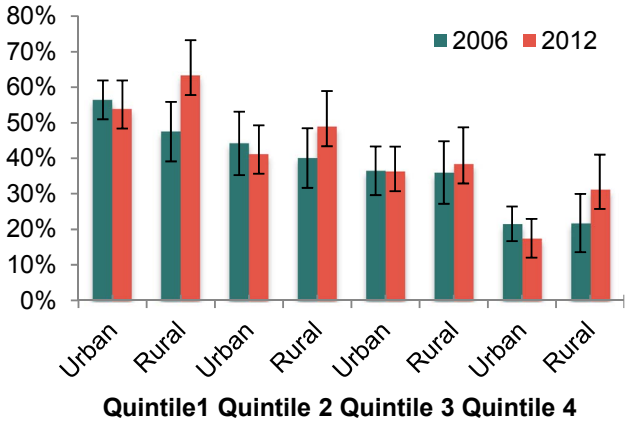
These gains seem to have been shared equally by gender, at about 6 percentage points each, but boys still attended school at a higher rate (33% vs. 26%). Students in rural areas attended school at a lower rate than their urban counterparts in 2012, but the absolute gap had decreased from 7 to 4 percentage points, and the relative gap had decreased slightly as well.

There were small but significant changes by ethnicity and region too. Attendance among ethnicities like the Betamaribe and the Puelh was still significantly lower than it was among the Dendi, but these exhibited the largest absolute increases. Most regions improved, although in Alibori and Atacora rates were significantly lower than the national average, at 13% and 24%, respectively. These regions maintained a consistent absolute and relative difference to Littoral in both years.

Alibori was the only region in which school-age children were significantly less likely to attend school compared with those in Littoral (a difference of 19 percentage points in 2012, compared with 8% in 2006). By 2012, ethnicity

Figure 7: Likelihood of being in education poverty, by quintile and location, 2006 and 2012 (%)

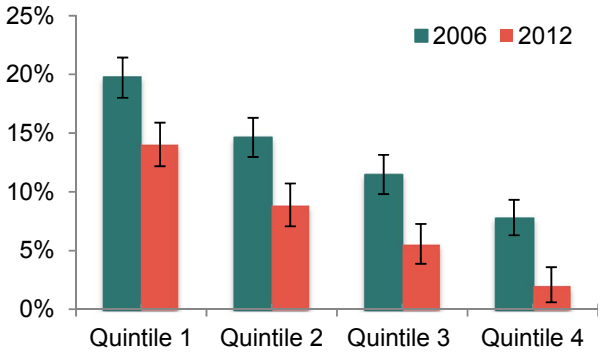




is not a significant predictor of attending school, except among the Betamaribe, who were 10 percentage points less likely to attend school than the Dendi. Girls are 6 percentage points less likely to attend school, down from 8 percentage points in 2006.

Like many other indicators, rate of attendance is most unequal by wealth quintile, with children in the poorest quintile 14 percentage points less likely to be attending school than those in the top quintile (down from a difference of 20 percentage points in 2006). While the probability of not attending school is still significantly higher for the lowest four quintiles than for the top quintile, these likelihoods have been decreasing across all quintiles (Figure 8).

Figure 8: Likelihood of not attending school, compared with top quintile, 2006 and 2012 (%)



Mosquito net usage

Mosquito nets are a key intervention for protecting against malaria. They also indicate government, private sector and international agency capacity to support the local population in its fight against communicable diseases. An estimated 100% of Benin is at risk of the transmission of malaria, although the most concentrated risk is in the northern regions (WHO, 2015). The latest statistics (2012) show 55% of deaths in Benin are from communicable diseases, a relatively high proportion (World Bank, 2015).

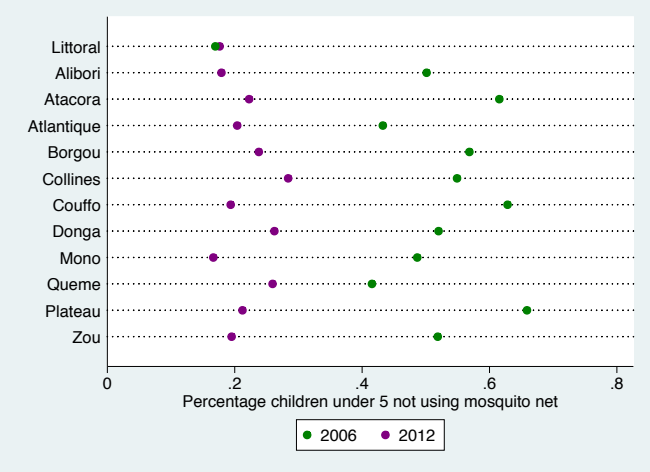
Malaria represents a major part of this. Malaria deaths have soared in recent years (WHO, 2015). Between 2006 and 2012, mosquito net usage increased from 50% to 78%. In 2006, there were significant by 2012, many of these had reduced. In 2006, the richest quintile had a rate of usage 39 percentage points higher than for the bottom quintile. By 2012, the gap had fallen to 7 percentage points. There was a significant increase across all regions, with the exception of Littoral, which had a significantly higher rate of usage in 2006 and one of the highest rates of usage in 2012. By 2012, both urban and rural areas used mosquito nets at approximately the same rate, closing a gap of about 12 percentage points (urban 58%, rural 46%) in 2006. By ethnicity, gaps in rate of use had declined to a range of 7 percentage points (74% for Yoa

Table 2: Rates of school attendance by ethnicity, 2006 and 2012 (%)

	Dendi and related	Bariba and related	Fon and related	Yoa and Lokpa and related	Betamaribe and related	Puelh and related	Yoruba and related	Other	Total
2006	15.67	22.46	25.81	22.94	19.69	5.11	27.97	27.23	24.02
2012	21.23	24.26	31.20	27.80	25.11	12.00	31.86	33.40	29.26
Increase	5.56*	1.79*	5.39*	4.85*	5.42*	6.89*	3.89*	6.17*	5.24*

*Note: *Indicates significant.*

Figure 9: Rate of usage of mosquito nets, 2006 and 2012 (%)



compared with 81% for Yoruba), from 33% in 2006. Many of the gains were made by Betamaribe households, which increased their rate of mosquito net usage from 27% in 2006 to 75% in 2012.

By 2012, most of the regional differences in the probability of not using a mosquito net had fallen. We compare probabilities relative to households in Littoral – only in in Queme were residents significantly more likely not to use a net (7%). Similar trends were seen by ethnicity and location: by 2012, the differences in likelihood had reduced and were not significant. Inequalities owing to quintile remained significant, although they had decreased considerably (Figure 13) compared with the highest quintile . Not all members of the bottom 80% fared equally, however. When wealth quintile is further disaggregated, location has a significant but small effect. Those in the bottom 80% in urban areas were less likely to use a net than those in rural areas, although likelihoods have increased since 2006 as well. For example, in 2012, those in the second quintile in urban areas were 17 percentage points less likely to use a net than those in the highest quintile.

Stunting

Stunting is assessed here as an indicator of food security and access to nutrition. It is a key indicator of health among families in Benin. Stunting has risen in Benin in recent years (World Bank, 2015) and represents a growing concern in the country. The DHS measures the height of household children using World Health Organization (WHO) Child Growth Standards, which consider 'stunted growth' to be a height less than two standard deviations below the median height of a reference population (De Onis and Blössner, 1997).

Slightly less than half of the population is stunted (44%), and this was relatively stable between 2006 and 2012 (Table 3). Urban areas have lower stunting rates than rural areas, although stunting rates have increased significantly in urban areas since 2006 (from 36% to 42%). Females have lower stunting rates (42%) than males (47%), although stunting among girls has increased slightly

Figure 10: Likelihood of not using a mosquito net, compared with top quintile, by quintile and location, 2006 and 2012 (%)

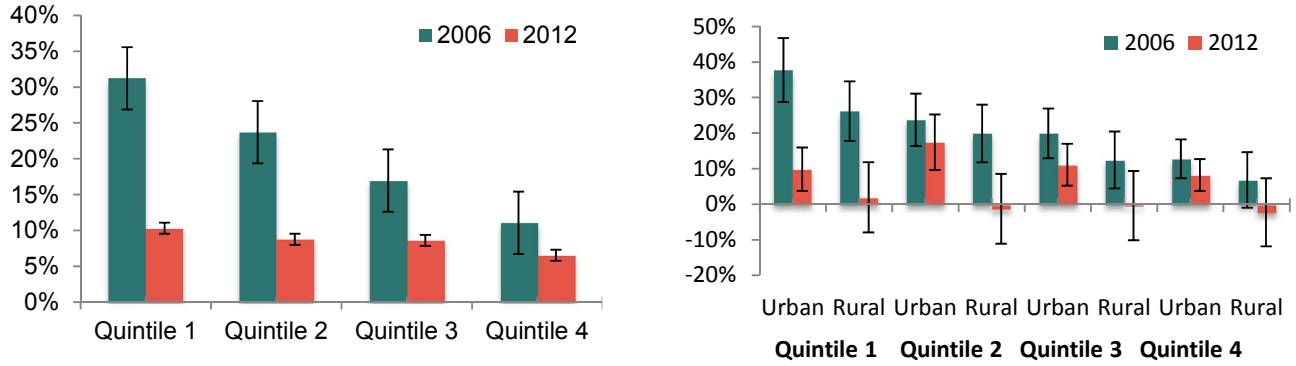
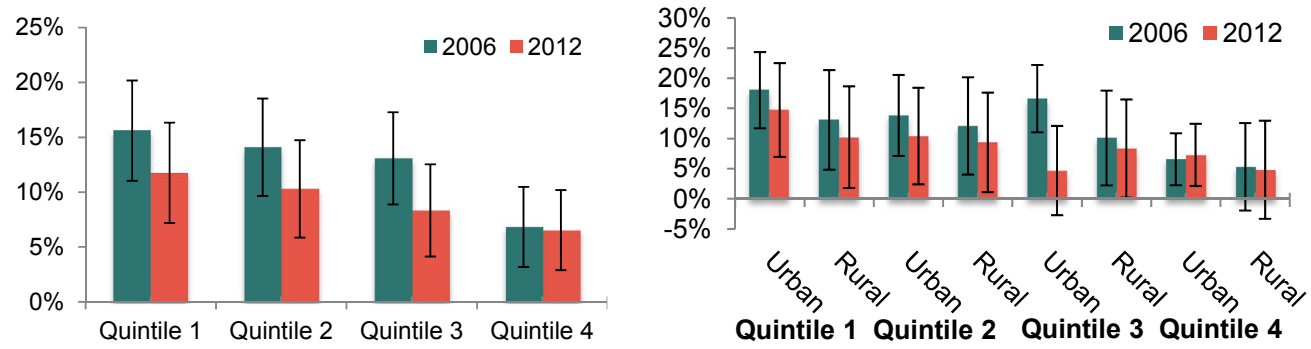


Table 3: Stunting rates by quintile, 2006 and 2012 (%)

	Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5	Total
2006	49.49	48.23	47.21	38.95	28.86	43.02
2012	48.92	47.31	45.4	43.16	37.6	44.55
Change	-0.56	-0.92	-1.81	4.21*	8.74*	1.54

*Note: *Indicates significance at 0.05 level, highlight indicates rate increased.*

Figure 11: Probability of being stunted, compared with top quintile, by quintile and location, 2006 and 2012 (%)



Note: Light bars indicate probability is not significant.

(2 percentage points), albeit significantly, since 2006. Overall, females were 7 percentage points less likely to be stunted in 2012 than males were, compared with a 6 percentage point difference in 2006.

Across quintiles (Table 3), differences in stunting rates between the lowest to highest quintile decreased from 21 to 11 percentage points. However, stunting rates did not significantly change for the lowest three quintiles; rather, they increased for the fourth and fifth (top two percentiles). Ethnic differences changed significantly only for the Yoa (increased 7 percentage points) and Betamaribe (decreased 5 percentage points) both to 50%.

Regional changes were in both directions as well. The stunting rate in the richest region, Littoral, significantly increased from 29% to 41%; in one of the bottom regions, Alibori, the stunting rate decreased significantly, from 63% to 55%.[7]

Figure 11 demonstrates that children in the bottom four quintiles continue to be more likely to be stunted than those in the highest quintile by up to 12 percentage points, and the change between 2006 and 2012 is not statistically significant. Although location is not a significant predictor of being stunted on its own, when quintile is disaggregated by location, individuals in urban areas were significantly more likely to be stunted than their rural counterparts (Figure 11).

Ethnic and regional differences were not significant predictors of stunting overall. By 2012, there was only one significant difference in likelihood to be stunted by ethnicity: the Puelh were significantly less likely to be stunted than the Dendi. Regional differences were similar, with few regions being significant predictors of stunting. In 2012, Borgou, Collines, Couffo and Zou regions were significantly different from Littoral region; individuals in these regions were 10, 21, 21 and 19 percentage points more likely than those in Littoral to be stunted, respectively.[8]

7 2012 estimates were based on only 8,000 observations, relatively fewer observations than for other indicators.

8 2006 estimates are omitted owing to large (100-200 percentage points) confidence intervals, likely because of the low numbers of stunting in the base region, Littoral.

A narrowing gap? Falling inequalities in Benin

The statistics above show the poorest in Benin are distinctly marginalised. Across the development outcomes tested, the wealth background of those in the bottom and second-from-bottom quintiles consistently hampers their chances of success on each indicator. The relationship between wealth quintile and selected development outcomes, overall, does appear to have marginally declined in recent years, according to the data.

The difference in the likelihood of having access to education and health between households in the top and bottom wealth quintile, controlling for other factors, has generally declined. Although the decline is not especially large on all indicators, for example in education poverty, this represents a tremendous achievement that is unlikely to be the norm in many other West African nations (Blas, 2015). This ties in with the World Bank's recent statement that 'economic growth in Benin can be said […] to be pro-poor – the very poorest households (lowest two deciles) benefit from growth to a greater extent that do other households' (World Bank, 2014b). At the same time, the 2012 statistics show wealth (and, to a lesser extent, region, ethnicity and gender) still significantly determines other aspects of development for households and individuals. This must be addressed.

The only two indicators where inequality appears to have risen are sanitation and clean fuel. On each of these indicators, the absolute gap has risen substantially. In both cases, the bottom quintile had almost no access in both years. As the richest quntile have begun to receive higher levels of access, this has resulted in increased inequality. However, the low overall levels indicate the need for universal improvements on these indicators.

The extent to which relative wealth predicts the most basic development needs of individuals in Benin is still alarming. Those in the bottom quintile are still nearly five times as likely to have less than four years of education than those from the top quintile. Differences in household services are stark. Inequality in health outcomes has at least declined substantially between 2006 and 2012.

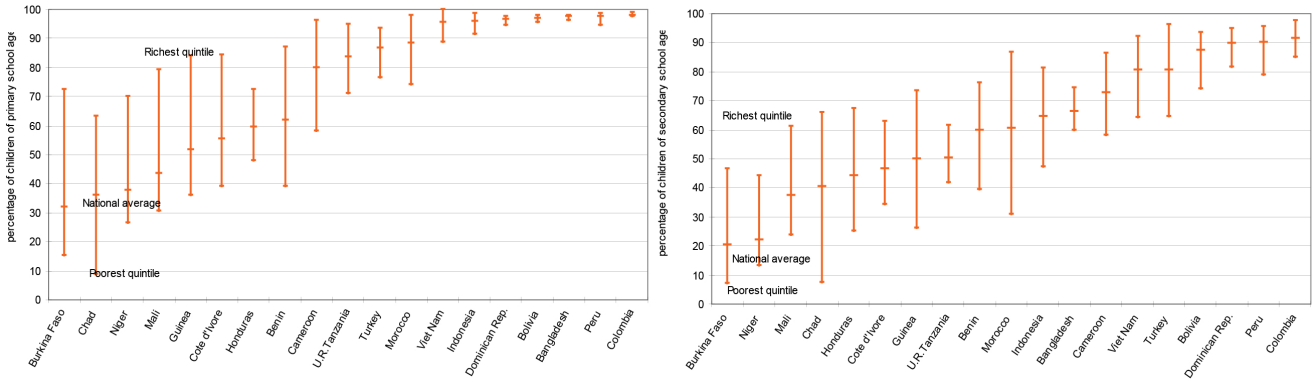
Our focus on disparities in development among the country's various wealth groups is important. While Benin does not have a particularly high level of wealth inequality by regional or global standards, the existing levels of wealth inequality have considerable effects on various different development outcomes. A comparative look at developing

Table 4: Evolution of gaps, 2006-2012

Indicator	Absolute gap (percentage points)			Relative gap (ratio)		
	Direction of change	2006	2012	Direction of change	2006	2012
Household services						
Clean fuel	↑	16	23	↑	119.2	*
Water	↓	41	34	↓	1.9	1.6
Sanitation	↑	0	26	↑	*	626.3
Education						
Education poverty	↑	60	62	↓	5.6	4.9
School attendance	↓	20	13	↓	2.4	1.6
Health						
Mosquito nets	↓	39	7	↓	2.2	1.1
Stunting	↓	20	11	↓	1.4	1.2

*Note: *Bottom quintile has virtually no access in that year. Relative gap (ratio) interpreted as ratio of bottom quintile with access to top quintile with access.*

Figure 12: Proportion of children attending primary school and stunting by quintile, late 2000s (%)



countries' DHS scores helps explain this. Figure 15 looks at stunting and primary school attendance indicators (UNDESA, 2013).9 Countries are placed in order of their national averages on the two indicators. At the same time, their range in performance across their wealth quintiles is displayed. What this shows is Benin's bottom quintile fare far worse on stunting and primary school attendance that the bottom quintile of countries they are ranked alongside. Focusing purely on national averages serves to hide this problem.

One of the strongest relationships between wealth and outcomes is in education poverty. In the 2012 statistics, the bottom quintile was 57 percentage points more likely than the top quintile to be in education poverty, all other variables controlled for. Even the second-top quintile was found to be more than 42 percentage points more likely to be in education poverty than the top quintile.
It is interesting to note that those in the bottom quintile in urban areas were more likely to be in education poverty than those in the bottom quintile and rural. Proximity to Benin's wealthiest may provide benefits in terms of access to markets and economic opportunities, but in terms of vital services such as education it is so far not proving to be necessarily beneficial.

However, differences between the wealth groups in school attendance have reduced. In 2012, the differences in the probabilities of children from different wealth groups attending school were less than 15 percentage points. This is likely to be the result of Benin's Free Primary Education Policy, adopted in 2006, which abolished parent-paid tuition fees and significantly increased resources directed towards schools. This was found to significantly tackle inequality in access to and attendance of primary schools and primary school completion among low-income groups, girls and northern regions, without adversely affecting pass rates and exam results (Somasse, 2014). If school attendance
can be decoupled from the wealth background of children, Benin would expect education attainment statistics (shown here in our analysis of education poverty) to also lose their relationship with wealth in the coming years.

Strong progress in tackling disparities in health across wealth appears to have been made between 2006 and 2012. When assessing stunting and mosquito net coverage, although disparities between wealth groups are apparent, these are declining rapidly, with gender and locational differences becoming stronger predictors of health.

There is increasing scope to address the fortunes of those being left behind. In the wake of the global economic crisis, foreign direct investment decreased by 26% in Benin (te Velde et al., 2009) but has since rebounded. Benin should have the means domestically, along with continued foreign aid, to address inequalities appropriately. The Bachelet Report on the social protection floor (ILO, 2011) found Benin was one of a group of countries where a universal social protection floor would cost only 1-2% of gross domestic product (GDP). This would go some way to tackling wealth inequality. Importantly, for those at the bottom, it would free up resources to access education and secure the household facilities currently unavailable to them.

9 This analysis referred to Benin's 2006 DHS data, comparing this with other national DHSs conducted in the late 2000s.

Ethnicity and inequality in Nigeria

Nigeria has more than 250 ethnic groups, with varying languages and customs. The largest are the Hausa, Yoruba, Igbo and Fulani, which account for more than 65% of the population (Table 5). Other ethnicities, such as the Edo, Ijaw, Kanuri, Ibibio, Ebira, Nupe, Gwari, Itsekiri, Jukun, Urhobo, Igala, Idoma and Tiv, make up the rest of the country. This study focuses on inequalities between the four major ethnicities, as the largest and the greatest source of ethnic-political contestation in Nigeria.

Nigeria is still a predominantly rural country, although it is rapidly urbanising. Although the south is the centre of economic and commercial activity, it contains only around 38% of the population. The north is in fact growing rapidly as a share of the Nigerian population.

Regional fissures are the most frequently discussed point of inequality in Nigeria. Since independence in 1960, discussions over how to narrow the gaps in regional development and redistribute power and wealth across the country have dominated the political discourse. The most fundamental regional division is that between the north and the south. This was the original division of the colonial state, which was administered separately even after the two units were amalgamated in 1914. Further divisions emerged with the establishment of a three-region structure (North, East, and West) in 1946.

Looking simply at regional differences, though, simplifies the matter of inequality in Nigeria. Kano, the commercial hub of the relatively poor north, has an economy the size of Ghana's (Ogunlesi, 2014). Income inequality, measured through the Gini coefficient, is regularly recorded as larger in the wealthier regions of the south than in the poor north (Aigbokhan, 2009). Within the south, location, gender and ethnicity still play a major role in determining the welfare and living standards of individuals and households.

Nigerians are far more likely to define themselves in terms of their ethnic affinities than any other identity (Osaghae and Suberu, 2005). Ethnicity 'is demonstrably the most conspicuous group identity in Nigeria' (Lewis and Bratton, 2000). In the struggles for more equitable access to power in the 1990s, it became common for several non-minority groups, including the Igbo and some Yoruba subgroups, to redefine themselves as 'minorities' to highlight their supposed marginalisation and exclusion from power and resources (Osaghae and Suberu, 2005). This shows the power of the rhetoric of ethnicity in modern Nigeria. Ethnic divisions may thus be the driving force of inequality in the country. Battles for power, resources, rights and opportunities between ethnicities are commonplace. However, because of the regional concentration of Hausa (north), Fulani (north), Yoruba (west) and Igbo (east), this can often appear as a regional struggle.

The analysis below explores inequality in Nigeria against a set of key development outcomes. It shows that, while regional inequality is strong, the effect of ethnicity may be as powerful a determinant of development outcomes in the country. It thus suggests a need for Nigeria to address not only regional inequalities but also the factors and institutions at play that serve to both create and limit opportunities to certain ethnicities, in particular Hausa and Fulani people.

Table 5: Population by group, 2008 and 2013 (%) (DHS data)

Category	Group	2008	2013
Gender	Male	49.73	49.45
	Female	50.27	50.55
Region	South West	19.60	15.54
	North East	13.46	15.17
	North West	25.69	31.74
	South East	11.62	10.66
	South South	15.06	11.40
	North Central	14.57	15.48
Ethnicity	Yoruba	17.41	20.17
	Hausa	23.93	25.06
	Igbo	15.99	16.45
	Fulani	5.96	4.36
	Others	36.72	33.97
Place of residence	Urban	33.29	39.85
	Rural	66.71	60.15
Total observations		187,466	215,522

Wealth

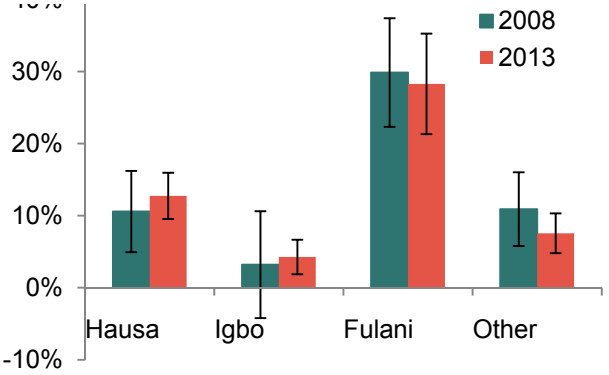
Key findings

- The Hausa and Fulani are far more likely to fall into the bottom quintile than the Yoruba. Being both rural and Hausa or Fulani greatly increases this likelihood and this inequality rose between 2008 and 2013. Rural Fulani are over 50 percentage points more likely than the Yoruba to sit in the bottom quintile.
- The likelihood of being in the bottom quintile for those in the North East region fell sharply between 2008 and 2013.

There are large economic disparities in Nigeria, with 62% of Nigerians living on less than $1.25/day in 2010.[10] Owing to our relative measure of wealth, our analysis is restricted to understanding the characteristics of households in different quintiles and change over time. Across the four ethnic groups of focus, the Fulani and Hausa households are disproportionately represented in the poorest quintiles, whereas the Igbo and Yoruba are disproportionately represented in the richest quintiles. The difference between the Fulani and the Yoruba households is most acute. For example, the Fulani households make up less than 10% of the population but over 50% of the poorest wealth quintile (Table 6). Conversely, the Yoruba make up 20% of the population and have very little representation in the poorest quintile, but comprise over 50% of the richest quintile. These proportions were constant between 2008 and 2013. There are also significant gaps by location: over 94% of the households in the poorest quintile live in rural areas. Nearly one-third (31%) of households in rural areas were in the bottom quintile in 2013, compared with 3% of those in urban areas, representing a small but significant increase from 29% in 2008.

The likelihood of being in the poorest quintile was 28 percentage points higher in Fulani households than in Yoruba households in 2013 (Figure 13).[11] Disparities are evident between rural and urban areas but have declined over time. Households in rural areas were 22 percentage points more likely to be in the poorest quintile than those in urban areas in 2008, but only 16 percentage points more likely by 2013. While these effects have been declining over time in general, for rural Fulani and rural Hausa the likelihood of being in the bottom quintile has been increasing (Figure 14) although the increase was not statistically significant. In 2013, the probability of being in the bottom quintile for rural Fulani was 52 percentage points higher than it was for those living in urban areas, compared with 38 percentage points higher in 2008.

Figure 13: Likelihood of being in bottom quintile, compared with Yoruba, 2008 and 2013 (%)



Regional differences also play a role in wealth distribution. The North East and North West hold far greater proportions of the poorest population than any other regions (40% and 35% in 2013, from 47% and 32% in 2006). On the other hand, the South West and South South regions are home to only 2% and 5% of households in the bottom quintile. Over time, regional distributions were stable, with the exception of in the North East, where percentage of the bottom quintile decreased from 47% to 40%. Figure 15 shows that, in 2013, likelihood of being in the bottom quintile was 7 to 10 percentage points higher for households living in the North or North West compared with those in the South West. However, the likelihood of being in the bottom quintile declined significantly from 2008 for North East households, while it has increased for those in the South East (Figure 15). It is important to note the difficulty of separating the effects of ethnicity and region, given significant ethnic clustering by region.[12]

Table 6: Rates of being in bottom quintile, by ethnicity (%)

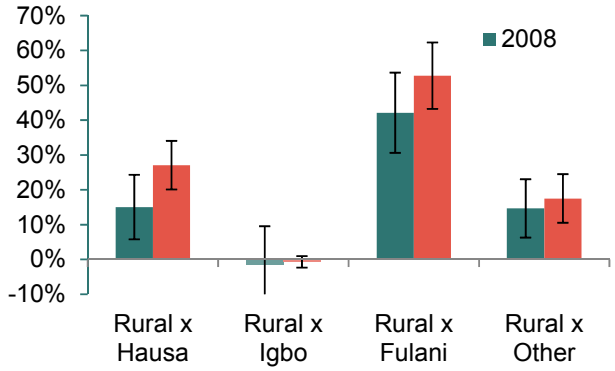
	Yoruba	Hausa	Igbo	Fulani	Other	Total
2008	2.17	25.16	3.84	62.98	18.05	17.39
2013	0.05	24.34	3.81	53.7	5.47	10.94
Change	-2.12*	-0.81*	-0.03	-9.29*	-12.58*	-6.46*

*Note: *Indicates significant change.*

10 http://data.worldbank.org/indicator/SI.POV.DDAY

11 See Box 1 for methodology to establish likelihood.

Figure 14: Likelihood of being in bottom quintile, by location and ethnicity, compared with Yoruba, 2008 and 2013 (%)



Note: Lighter colour bars indicate ethnicity is not statistically significant (at 5% level) in predicting likelihood of being in bottom quintile.

Access to services

Key findings

- Access to services is unequal by quintile - with the richest Nigerians have the most access to clean water, clean fuel, electricity and sanitation.

The following section considers inequalities in access to services, in electricity, clean fuel, water and sanitation. About half of all Nigerians have access to electricity and improved water. Far fewer, less than 20% nation-wide, have access to clean fuel and improved sanitation. Ethnic, wealth, regional and rural/urban differences contribute to unequal access to these services13.

Electricity

Access to electricity has improved little over time. Nearly all (97%) of households in the top quintile and only 7% of the bottom quintile had access in 2013, an increase from 96% and 2%, respectively, in 2008. Other significant gaps were between the Yoruba and Fulani households, with a 63 percentage point difference in both 2013 and 2008; between the South West and North East, with a 50 percentage point gap in 2013, up from 46 percentage points in 2008; and between urban and rural areas, with a 50 percentage point gap, down from 54 percentage points in 2008.

Water

Unlike for electricity, access to improved water sources improved significantly between 2008 (54% of households) and 2013 (58%). Overall, the increase was small but significant for regions in the north (average improvement of 12 percentage points), the most disadvantaged ethnic groups (with improvements among Hausa and the Fulani of approximately 15 percentage points) and the bottom three quintiles (average 9 percentage point improvement).

Clean fuel and sanitation

Access to clean fuel and improved sanitation in Nigeria is low (both less than 20% on average). The poorest 80% of the population have very little access to either service (less than 5% for the poorest three quintiles; less than 25% for the fourth quintile). Location also underlies service access, with households in northern and rural areas having very little access to either clean fuel or improved sanitation. Services have improved over time for southern and less disadvantaged ethnicities, such as the Yoruba and the Igbo, but improvement has also been uneven, with groups already behind making relatively little gain.

Education and health

Key findings

- Inequalities in the likelihood of attending school are wide and increasing. The Fulani and Hausa, particularly those living in rural areas or in the bottom quintile, are far less likely to attend school than the Yoruba.
- Rates of education poverty have not changed overall, but both absolute and relative gaps have increased for women, rural areas, the Fulani, the Hausa (relative to Yoruba) and the North East and North West regions (relative to the South West).
- There are significant gaps in health for the Hausa, the Fulani, the North East and the North West regions across mosquito net usage and stunting.
- Significant gains have been made over time in mosquito net usage and decreasing stunting. The majority of gains in health though have accrued to privileged groups, with the notable exception of the top quintile of Nigerians, whose rate of stunting has increased significantly.

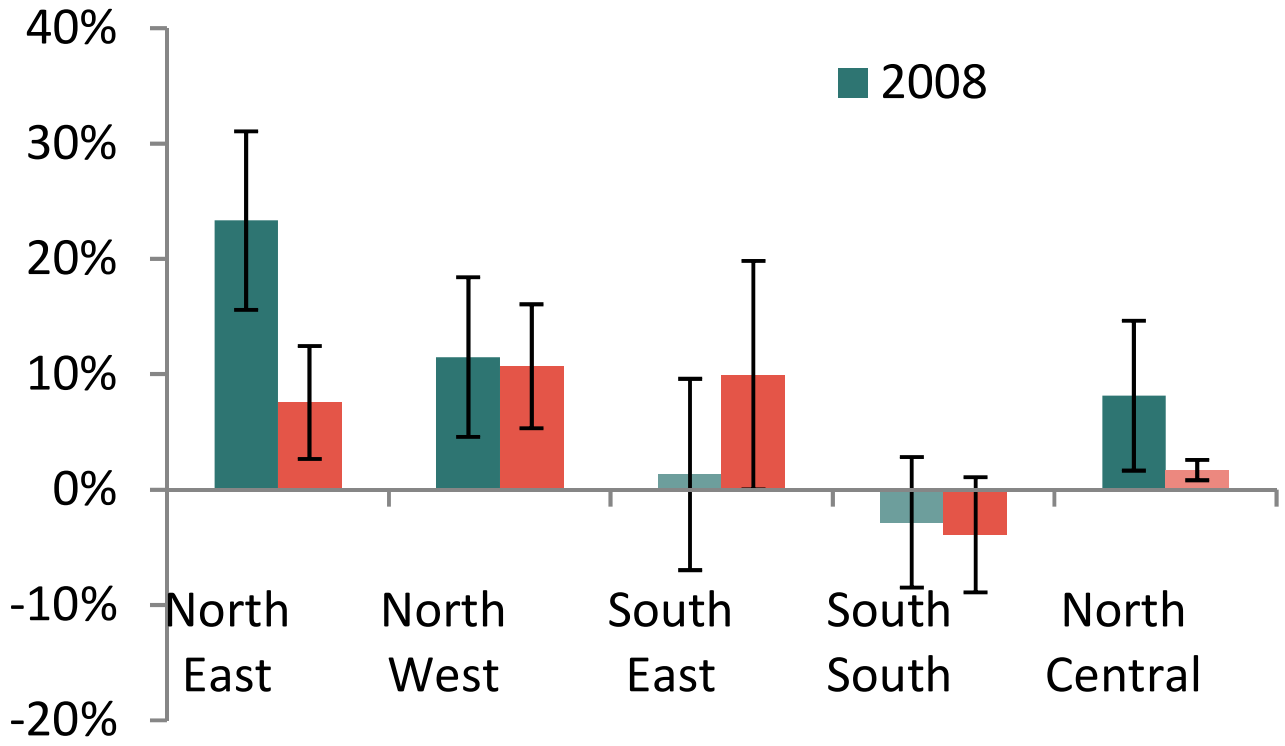
Education poverty

Overall, approximately one third of Nigerians aged 20-24 are in education poverty, defined as four years or less of schooling, and this has not changed significantly from 2008.14 In general, in both rural and urban areas, and for boys and girls alike, more than half of Nigerians have more than four years of education. However, there are many disparities in education poverty affecting particularly the Fulani and the Hausa, the North East and North West

12 It is not possible to predict probability for being in the bottom quintile for the interaction between different ethnicities in different regions.

13 Marginal estimates are not evaluated for access to services, for see methodology above.

Figure 15: Likelihood of being in the bottom quintile, by region, compared with South West, 2008 and 2013 (%)



Note: Lighter colour bars indicate region is not statistically significant (at 5% level) in predicting likelihood of being in bottom quintile.

regions, the poorest two wealth quintiles, women, and households in rural areas. Women's rates of education poverty are significantly higher than men's, at 36% vs. 20%, representing a significant increase as well as a widening of the gap in the education poverty rate for both groups from 2008 (32% and 16%, respectively). Education poverty in rural areas also significantly increased in both absolute and relative terms to 43% in 2013 from 35% in 2008, compared with urban rates of approximately 10% in both years. Figure 16 above shows that, while the gap across regions and ethnicities is closing over time (though the decline is not statiscally significant), the Fulani and the Hausa are significantly behind other ethnic groups, as are the North East and the North West regions.

Figure 17 demonstrates that the likelihood of being in education poverty decreased with higher wealth status and the likelihood of being in education poverty has remained relatively constant across quintiles. In addition to differences across quintiles, there are also significant ethnic disparities. The likelihood of being in education poverty in 2013 was 22 percentage points higher for the Hausa than for the Yoruba and 25 percentage points higher for the Fulani than for the Yoruba (Figure 18). Moreover, rural members of several ethnicities are more likely to be in education poverty than their urban counterparts (Figure 19). Rural Hausa were 19 percentage points more likely and rural Fulani 31 percentage points more likely to be in education poverty compared with the Yoruba in 2013, compared with urban Hausa and Fulani, who were both only 15 percentage points more likely to be in education poverty than the Yoruba. Gender differences also matter: compared to the Yoruba in 2013, Hausa women were 27 percentage points more likely to be in education poverty while Hausa men were only 9 percentage points more likely.

School attendance

Education poverty measures the educational attainment of adults who have moved past school age. School attendance, on the other hand, is more up to date, as it measures whether a household member of school-going age attended school in the year the survey was taken. Disparities across ethnicity and wealth are associated with school attendance.

14 Includes approximately 12,000 observations each for 2008 and 2013, as only respondents between the ages of 20 and 24 are considered for this outcome. This is a relatively low number compared with other outcomes, therefore education poverty results should be interpreted with caution

Figure 16: Education poverty by region and ethnicity, 2008 and 2013 (%)

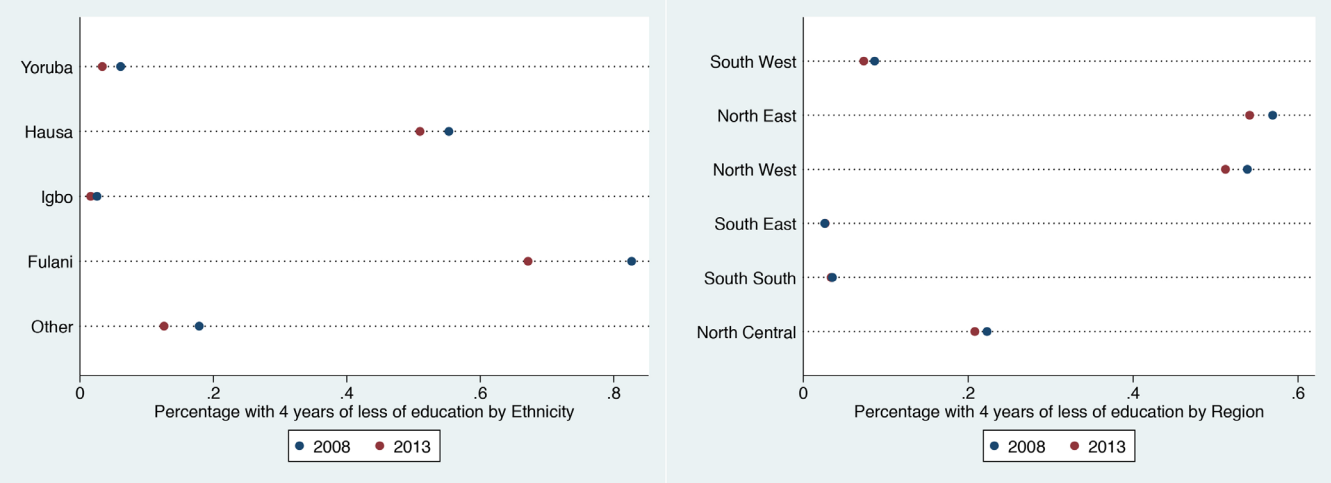


Figure 17: Likelihood of being in education poverty, by quintile, compared with top quintile, 2008 and 2013 (%)

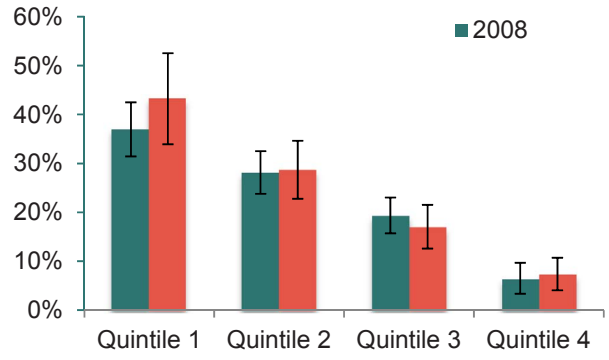
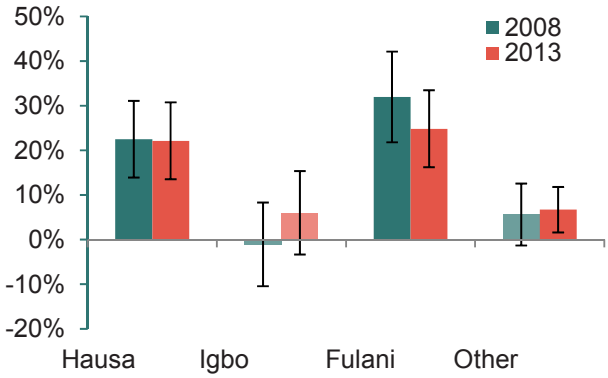


Figure 18: Likelihood of education poverty, by ethnicity, compared with Yoruba, 2008 and 2013 (%)

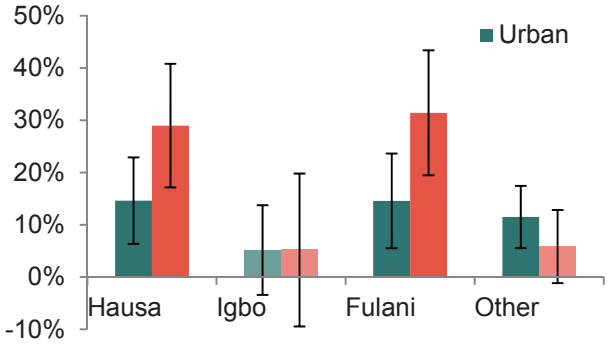


Overall, approximately 75% of respondents did not attend or had attended school only part of the time in both 2008 and 2013.[15] Gender differences were small but meaningful: 73% of males and 76% of females did not attend school in 2013, unchanged from rates in 2008.

Attendance increased across ethnicities. While absolute differences were approximately the same between the Yoruba and the Fulani, relative differences decreased. The most disadvantaged regions showed a small increase in attendacne, but there was still a gap in attendance rates between the South West and the North East of 13 percentage points (unchanged since 2008).

Those in the richest quintile were 17 percentage points more likely to have attended school than those in the poorest quintile in 2013 (unchanged from 2008) – approximately 32% of respondents in the richest quintile attended school compared with 10% in the poorest quintile. Those in the second quintile were 6 percentage points more likely not attend to school than the top quintile, and there were no significant differences in likelihood for the other quintiles. Like education poverty,

Figure 19: Likelihood of being in education poverty, by ethnicity and location, compared with Yoruba, 2013 (%)



women were 12 percentage points less likely to attend school than men, consistent from 2008. Ethnicity is a source of inequality as well, with the Yoruba 13 percentage points more likely than the Hausa and 18 percentage points more likely than the Fulani to attend school in 2013 (compared with 12% and 15% in 2008), with smaller but

15 This question was asked of all household members, so one would expect a majority to be beyond school age.

Figure 20: Likelihood of not attending school, by ethnicity, compared with Yoruba, 2008 and 2013 (%)

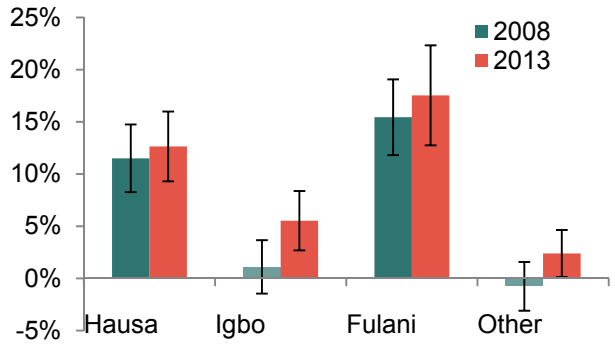
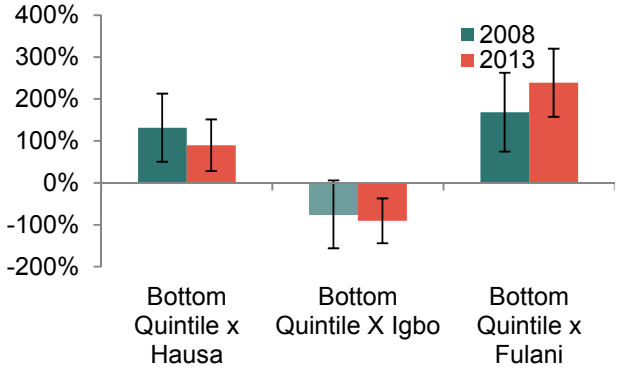


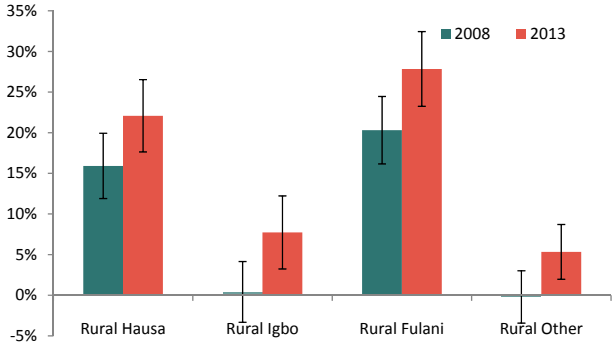
Figure 21: Likelihood of not attending school, by quintile, compared with Yoruba, 2008 and 2013 (%)



still significant gaps for other ethnicities (Figure 20). These gaps are increasing over time.

Not all the Hausa and Fulani fared equally, however. Evaluating the interaction between quintile and ethnicity, the Hausa in the poorest quintile were 90% more likely to not attend school and the Fulani were 239 percentage points more likely to not attend school in 2013 (although margins of error for these computations are large). Even less encouragingly, the gap for the poorest Fulani appears to have widened between 2008 and 2013 (Figure 21). The Hausa and the Fulani are more likely to live in rural areas (60 and 82 percentage points, respectively), and rural/urban gaps are large and increasing. Rural Hausa and Fulani were more likely to not attend school in 2013 than the Yoruba (22 and 28 percentage points more likely, respectively) and these disparities seem to be growing (Figure 22).

Figure 22: Likelihood of not attending school, by location, compared with Yoruba, 2008 and 2013 (%)



Note: Lighter colour bars indicate not statistically significant.

Stunting

Stunting is assessed here as an indicator of food security and access to nutrition. It has been a key concern for Nigeria in recent years. Overall rates of stunting in Nigeria are around the regional West African average, at 37%. The DHS measures the height of household children using WHO's Child Growth Standards, which considers 'stunted growth' to be a height less than two standard deviations below the median height of a reference population (de Onis and Blössner, 1997).

Stunting decreased significantly between 2008 and 2013, from 41% to 37%. While stunting decreased on average, this improvement has not happened equally. There are significant gaps across ethnicity, region, location, gender and quintile (Table 7). In many cases, the gap between groups has grown even as stunting has decreased overall, for example when the most privileged groups made the most gain, as among the Yoruba and the South West region. In other cases, relative and absolute differences have decreased because stunting increased among the most privileged groups, for example in the top quintile.

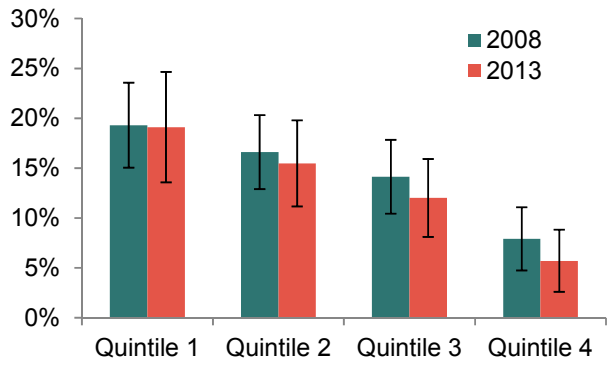
The bottom quintiles were 19 and 15 percentage points more likely to be stunted than the top quintile in 2013, and this disparity remained stable. Although three of the bottom four quintiles have reduced their rates significantly (the third quintile did not), stunting increased significantly in the top quintile in 2013. Controlling for other factors, ethnic differences are not significant predictors of stunting on their own. However, regional differences increased, with those in the North East and the North West 14 and 27 percentage points more likely to be stunted, up significantly from 9 and 12 percentage points in 2008. Not only are the less advantaged groups like the residents of the northern regions more likely to be stunted but also this likelihood is increasing over time (Figure 23).

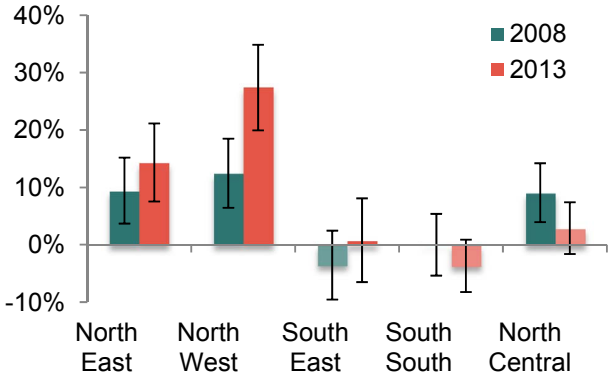
Mosquito net usage

Mosquito nets are a key intervention for protecting against malaria. They also indicate government, private sector and international agency capacity to support the local population in its fight against communicable diseases. The DHS contains information on several factors related to mosquito nets. The data below allow us to assess whether children in the household under the age of five had slept under mosquito nets in the previous evening.

Mosquito net usage has increased significantly over time, with 20% of children using them in 2013 compared with 13% in 2008, although gaps between subpopulations are widening.16 Inequalities in mosquito net usage follow a slightly different pattern than other indicators because, in 2008, the Hausa and the Fulani had a greater rate of usage than the Yoruba and the Igbo, although the difference

Figure 23: Likelihood of having stunted growth, by quintile and region, compared with top quintile, 2008 and 2013 (%)





Note: Lighter colour bars indicate not statistically significant.

was not statistically significant. By 2013, however, rates of usage by the Yoruba and the Igbo had surpassed that of other ethnicities, surging to 22% from 10% and to 30% from 15%, respectively.17 Regional differences increased – this can be attributed to increased usage in the South West region (10% to 22%), and that in the North West (13% to 18%), while usage in the North East stayed the same.

By 2013, households in the North East were 53 percentage points less likely to use a mosquito net than those in the South West (down from 7 percentage points *more* likely) and those in the North West were 94 percentage points less likely to use a mosquito net (down from 9 percentage points *more* likely).

Table 7: Stunting rates by various subpopulations, 2008 and 2013 (%)

		2008	2013	
Ethnicity	Yoruba	33.26	22.71	-10.56*
	Hausa	51.4	48.45	-2.94
	Igbo	20.71	14.71	-6.00*
	Fulani	51.85	50.58	-1.27
Region	SW	31.38	22.19	-9.19*
	NE	48.53	42.31	-6.22*
	NW	52.54	54.78	2.25*
	SE	21.7	15.99	-5.71*
Location	Urban	31.42	25.97	-5.44*
	Rural	45	43.21	-1.79*
Gender	M	42.99	38.61	-4.37*
	W	38.35	35.03	-3.32*
Quintile	Q5	18.05	24.37	6.32*
	Q1	53.73	52.12	-1.62*

*Note: * Indicates significant at 0.05 level, highlight indicates growth.*

16 Respondents were considered to be using a mosquito net if some or all children in the household used a mosquito net. If the house did not have a net, or no child slept under one, the household was considered to not have a net.

Table 8: Rates of mosquito net usage by region, 2008 and 2013 (%)

	SW	NE	NW	SE	SS	NC	Total
2008	9.70	14.59	13.36	15.12	17.99	11.43	13.42
2013	22.12	14.31	18.47	29.19	22.44	20.13	19.77
Increase	12.42*	-0.27	5.12*	14.07*	4.46*	8.70*	6.35*

*Note: * Indicates significant at 0.05 level, highlight indicates decrease.*

17 The marginal differences by ethnicity were both small and not significant.

Limited progress: continuing exclusion in Nigeria

The above analysis of Nigeria's DHSs shows little progress has been made in key areas of development, in terms of not only overall progress for Nigerians but also inequality. Just 5% of Nigerians gained access to electricity between 2008 and 2013 and only 3% gained access to proper toilet facilities. School attendance is still low and just less than a third of Nigeria's young adults are deemed to be in education poverty.

Trends in ethnic inequalities show a mixed picture of progress. On half of the indicators tested, absolute gaps between the most prosperous group, the Yoruba, and the least prosperous group, the Fulani, have declined. These are wealth, access to water, education poverty and school attendance. However, on four other indicators, absolute gaps have risen, and by more. These are mosquito net usage, stunting, access to sanitation and clean fuel. Although the relative gap has decreased for most indicators, in two cases, sanitation and clean fuel, this is because the Fulani had almost no access in 2008, and thus, despite an increase in the absolute gap, the fact that they gained at least some access in 2013 meant the relative gap decreased. Although there were reductions in the likelihood of being in the bottom quintile and in access to water, these were only minor.

While Nigeria looks to address its famed disparities, in particular under the new leadership of Muhammadu Buhari, it appears that, in many cases, such inequalities are growing.

There has been some progress on narrowing inequalities in education. However, notably, wide inequalities in education between ethnicities persist, despite the importance of education in attempting to tackle other

Table 9: Evolution of gaps, 2008-2013

Gaps between Yoruba and Fulani						
Indicator	Absolute gap (percentage points)			Relative gap (ratio)		
	Direction of change	2008	2013	Direction of change	2008	2013
Wealth*	↓	61	54	↓	2.9	2.2
Household services						
Water	↓	47	34	↓	2.6	1.8
Sanitation	↑	32	38	↓	18.8	7.5
Clean fuel	↑	56	63	↓	75.3	18.4
Electricity	↑	63	63	↓	5.3	3.7
Education						
Education poverty	↓	77	64	↓	5.4	2.9
School attendance	↓	23	22	↓	3.4	2.6
Health						
Mosquito nets	↑	-3	8	↑	0.8	1.5
Stunting	↑	19	28	↑	1.4	1.6

*Note: * Interpreted as percentage in bottom quintile. Relative gap (ratio) interpreted as ratio between Yoruba with access to Fulani with access.*

Box 2: Tackling ethnic inequalities – decentralisation in Ethiopia

As we showed above, historically disadvantaged ethnicities in Nigeria continue to be excluded from development progress. To some, such long-term ethnicity-based inequalities may seem near impossible to address, limiting the political will to devise suitable solutions. Yet, across the continent, historical imbalances and discrimination against certain ethnicities have been addressed through appropriate tools.

The government of Ethiopia has made the development of disadvantaged ethnicities and regions a priority in recent years. With Ethiopia emerging from civil conflict in the 1990s, the new administration devised a new Constitution in 1995 to help mend decades of ethnic tension and exclusion. This introduced a unique federalist system that devolved political, fiscal and administrative powers to nine regions based on their ethnic identities. In the new regime, Beneshangul-Gemuz, Gambella, Afar and Somali ethnic regions would receive preferential treatment in budget allocations (Khan et al, 2014). The decentralised system was also designed to address tensions along the rural/urban divide, especially between the capital, Addis Ababa, and the rural population.

In contrast with the predictions of some governance theorists, the decentralised provision of services has not increased regional, ethnic or gender inequalities in investment and services. While the central government maintains authority over national matters, such as defence, foreign relations and major infrastructure projects, regional governments are responsible for the provision of basic services such as primary, secondary and vocational education, health services, rural roads and agricultural extension. The federal government provides more than 80% of regional states' expenditure (Woldehanna, 2013).

Expenditure on basic services, rather than being skewed towards the groups and ethnicities still largely dominating the central government, is broadly equal across Ethiopia's regions and (woredas). Additionally, a small number of woredas concentrated in the country's most disadvantaged regions receive significantly greater resources. Resource flows are in fact lowest among the more developed, historically dominant, regions. More than 50% of the woredas in Gambella and 30% in Beneshangul-Gemuz – the two most disadvantaged regions of the country – spend more than 110% of the national average on basic services (Khan et al., 2014). Spending also appears to favour historically disadvantaged ethnic groups, within regions, in accordance with constitutional mandates. Five majority-Anyiwak woredas receive the most public resources of all woredas in the nation (ibid.).

Decentralisation has also narrowed the gap in educational outcomes between disadvantaged and better-off woredas within ethnic regions, especially in Southern Nations, Nationalities and Peoples' Region. Pastoral, food-insecure and remote woredas have improved educational outcomes such as gross enrolment rates and pupil–teacher ratios. These results mirror changes in spending patterns, which have been biased towards the most lagging areas of SNNPR. Lenhardt (forthcoming) found a 6 percentage point reduction in inequality in years of education completed by women and girls in this period, across all regional/ethnic and rural/urban groups in Ethiopia.

It is worth bearing in mind Ethiopia's governance has not been without criticism, with concerns raised around restraints to civic participation, limitations on civil society activities and consrained political competition, including electoral inconsistencies and restrictions on political opposition (Freedom House, 2014; HRW, 2015).

inequalities in wellbeing. The Hausa and the Fulani are still far more likely to be in education poverty than the Yoruba and Igbo. The likelihood of a young Fulani having four or less years of education is still 24 percentage points higher than that of a young Yoruba. However, this is still distinctly skewed towards the urban, the wealthy and the Yoruba and Igbo. The probability of a Hausa child in the bottom quintile not attending school is around 90 percentage points higher than for those in the top quintile, whereas a Fulani child in the bottom quintile is nearly 239 percentage points more likely not to attend school. While the probability of school attendance narrowed between 2008 and 2013, aided by ongoing efforts to roll out access to education, inequalities among ethnicities increased. The likelihood of not attending school for Fulani, Hausa and even Igbo children marginally increased against the Yoruba.

While tackling inequalities among ethnicities is clearly a major challenge and fraught with sensitivities and complex political arrangements, the government should must adopt a greater focus on redistributing educational facilities.

Some see the disparity in educational achievement as going back to the British colonial education policy in northern Nigeria or stemming from a lack of receptiveness to 'Western' education among certain ethnicities (Barnes, 1997). Today, there is a greatly disproportionate number of southern students at the highest levels of education and ready to fill the highest positions of power and commerce in Nigeria. Although the south has about 47% of the population, it contributed 80% of university enrolments in 2000 (Mustapha, 2005).

Education has a marked positive effect on household earnings in Nigeria, despite the number of prejudices restricting or determining access to employment, wealth and resources. One recent study found an additional year of schooling was able to raise household income by 4.8% (Onyeiwu and Liu, 2011). Yet public expenditure on education in Nigeria has always been particularly low. As a percentage of GDP, it has been 1.5% (1960), 1.7% (1985-87), 0.7% (1995) and, more recently, between 6% and 9%, instead of the 26% recommended by the UN (Dauda, 2011).

Not only should spending increase but also, to attract and retain students, particularly in the north, where a cultural and religious battle may deter students from mainstream schooling, public education should begin to include further vocational training elements and skills acquisition in relation to agriculture and livestock production.

Conclusion

While traditionally inequality analysis of sub-Saharan Africa has looked at vertical income inequality patterns, this paper looks at group-based inequalities, with an emphasis on ethnic differences as well as wealth groupings. In Africa, it is encouraging that countries are showing important improvements on marginalised groups – in particular with a decline in wealth-based inequalities in Benin – but deep inequalities persist. In Nigeria, ethnicities in less developed regions continue to lag well behind the Yoruba and the Igbo in the south.

An important lesson from the MDGs has been that averages and aggregates conceal differences within and across countries, which are often significant (Samman, 2015). While the SDG agreement has a strong emphasis on advancing the most marginalised groups, or the LNOB principle, its targets currently still refer to nations at large. Going forward, with the LNOB agenda as a core component of the SDGs, inequalities need to be highlighted and tackled as central to the global development agenda.

The LNOB principle essentially means ensuring every individual achieves the full package of rights and opportunities and that progress is inclusive. This emphasizes the need to identify and reduce inequalities both across countries and within them. This paper has focused on the latter. While the SDGs and the LNOB principle will be agreed at the global level, their success will depend on effective implementation at the national and subnational level. As countries around the world think about how they can apply this principle, the experiences of other countries with similar group-based inequalities can help point out policies and the barriers that need to be addressed to effectively reach the most marginalised people. While targeted policies have rarely been used in sub-Saharan Africa, other options of the kind expressed above (Box 2) have great potential. From decentralised spending patterns to employment support to integrated land rights, a range of strategies are available for African countries to tackle specific group disadvantages.

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Appendices

Appendix 1: Methodological notes

The quantitative approach is based on logit or multinomial logit regressions.[18] Outcomes are presented in categories, often binary (yes/no). A base model regresses the outcome of interest (e.g. access to electricity) on the race/ethnicity group categories and other three important household characteristics: place of residence (rural-urban), subnational region and income quintile. In addition, for some outcomes measured at the individual level (as in the case of years of education), the regression also controls for the gender and age of the individual. The results for each group are discussed only if the variable is statistically significant in the regression model. Group characteristics often 'intersect': they overlap with other markers of exclusion. An interaction model is where the intersection of a group and other individual or household characteristic is added to the regression to see whether there are important differences within the groups. We test a few possible interactions (e.g. raceXplace of residence, raceXregion and raceXgender) deemed important based on the descriptive statistics or as pointed in previous studies in the country.[19] The results are reported only if the interaction variable is statistically significant in the regression model.

The results are reported in terms of predicted probabilities (marginal effects) for the different group categories and selected group intersections. These probabilities are computed as Average Adjusted Predictions for the groups and as Adjusted Predictions at Representative values for the intersections (as opposed to Adjusted Predictions at the Means), because the categories in the model rarely have a straightforward interpretation as means (e.g. an 'average person' 50% Hausa, 30% female or 40% urban). For example, to estimate the average adjusted prediction of race, the person is for a moment treated as though they were Hausa, for instance, regardless of what the person's race actually is and leaving all other variable values at their actual values. The probability of, say, having access to electricity is calculated for the person (if he or she were Hausa) and then averaged across all individuals. The same is repeated for all the categories and groups and the difference between a base category and each of the others is presented for comparison (e.g., in the case of race in Nigeria, the base category is Yoruba, thus the results are presented as the difference in probability between Yoruba and the other categories – Hausa, Igbo, Fulani, others); we refer to this as the absolute difference in the likelihood of having a certain outcome.20 In addition to the statistical significance of the regression coefficients, a confidence interval of the predicted probability is also used to analyse the differences between each group and the base category. Relative gaps are measured by the ratio of the predicted likelihood of the group to the predicted likelihood of the base category. Relative gaps are considered to be statistically significant if the regression coefficient is. In all cases, the precision of the estimates may decrease for smaller groups and intersections.

18 In practice, there is little difference in the estimated marginal effects when using a logit or a probit model.

19 Only one of these models was selected for the presentation of results but the predicted probabilities and pseudo R2 do not differ considerably.

Appendix 2: List of indicators and definitions

Indicators were selected to reflect a wide range of outcomes included in the MDG or likely to feature in the SDG targets. Data availability in the household surveys (DHSs) also guided indicator selection. The tables below show the measurement details in Benin and Nigeria, following international standards where possible.

Benin

Indicator	Measurement
Access to electricity	Households using electric energy for lighting.
Access to clean water	Major source of drinking water for members of the household.
Use of clean cooking fuel	Households with kitchen stove running on gas or electricity.
Bottom 40 %	Likelihood of a household being in the bottom two quintiles. Quintiles were constructed by collecting data on a household's assets. Each household is then given a standardised score for each asset, then scores are standardised. The standardised scores are then broken into five quintiles.
Education poverty	Individuals between 20 and 24 years old with less than four completed years of education (moderate education poverty).
School attendance	Respondent attended school the current year.
Mosquito nets	Children under five slept under bednet last night.
Stunting	WHO Child Growth Standards, which consider stunted growth to be a height less than two standard deviations below median height of a reference population

Nigeria

Indicator	Measurement
Access to electricity	Households using electric energy for lighting.
Access to clean water	Major source of drinking water for members of the household.
Use of clean cooking fuel	Households with kitchen stove running on gas or electricity.
Access to sanitation	Type of toilet facility in the household.
Bottom 40 %	Likelihood of a household being in the bottom two quintiles. Quintiles were constructed by collecting data on a household's assets. Each household is then given a standardised score for each asset, then scores are standardised. The standardised scores are then broken into five quintiles.
Education poverty	Individuals between 20 and 24 years old with less than four completed years of education (moderate education poverty).
School attendance	Respondent attended school the current year.
Mosquito nets	Children under five slept under bednet last night.
Stunting	WHO Child Growth Standards, which consider stunted growth to be a height less than two standard deviations below median height of a reference population

Appendix 3: Wealth inequality in Benin

Before exploring wealth-based inequalities, we should first explain the composition of the different wealth groups used here for analysis.

The DHS, rather than providing a monetary value to household wealth, describes households in terms of assets. A 'wealth index' is calculated using easy-to-collect data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities. From this, the wealth index groups households in to different bands of cumulative living standards and ownership and use of various assets. The survey respondents are split in to five even and ordered groups: bottom/second-from-bottom/middle/ second-from-top/top. Each represents 20% of society.

The data show Benin's richest households overwhelmingly reside in urban areas (82%), and, in turn three-quarters of urban households (73% in 2012) belong to the top two wealth quintiles. Among the bottom two quintiles, 82% and 84% of households, respectively, reside in rural areas. Just 3% of households belong to Benin's top wealth quintile

Regionally, wealth is also particularly split. Alibori contains just 6% of the population but 12% of its poorest households. Nearly 75% of Alibori's households sit within the bottom two wealth quintiles. In Atacora too, 72% of households are in the bottom two quintiles. In contrast, in Littoral, home to the capital, Cotonou, 77% of households belong to the top quintile. The least populated regions here, Alibori, Atacora, Borgou and Zou, comprise one-third of the population but just 13% of households in the top quintile. Adding the remaining 'other' regions (Mono, Donga, Plateau, Collines and Couffo), just under two-thirds of the population (63%) is covered but just under a quarter (23%) of households in the top quintile.

Where does each wealth quintile live, 2012 (%)

Quintile	Urban	Rural
Bottom	18	82
Second-from-bottom	16	84
Middle	24	76
Second-from-top	58	42
Top	92	8

Share of each quintile, by region (%)

	Alibori	Atacora	Atlantique	Borgou	Littoral	Ouémé	Zou	Others
Share of total pop.	6	9	12	9	12	12	9	30
Bottom	39	46	16	25	0	11	20	19
Second-from-bottom	35	26	16	23	0	13	22	26
Middle	19	15	21	20	2	20	24	28
Second-from-top	6	9	22	18	21	30	24	2
Top	0	4	26	14	77	26	11	6%

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Cover photo: Andrew Moore, Buying fruit at the market

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