USAID
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CONFLICT AND EDUCATIONAL INEQUALITY

Evidence from 30 Countries in Sub-Saharan Africa

FINAL REPORT

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CONTENTS

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ACRONYMS

EC-FAO	European Commission- Food and Agriculture Organization of the United Nations (FAO)
DHS	Demographic Health Survey
GED	Georeferenced Event Dataset
GIS	Geographic Information System
GPS	Global Positioning System
GAUL	Global Administrative Unit Layers
UCDP	Uppsala Conflict Data Program

EXECUTIVE SUMMARY

Despite recent global educational improvements, various forms of inequalities in education persist, particularly in developing countries. In crisis and conflict-affected environments, these inequalities may be further pronounced due to the sometimes detrimental effects of armed conflicts and natural disasters on education. Goal 3 of the U.S. Agency for International Development's (USAID's) Education Strategy calls for providing equitable access to 15 million learners in crisis- and conflict-affected environments by 2015. In addition, the strategy recommends carrying out rigorous studies to further the understanding of the linkages between educational inequalities and conflict.

This report provides an overview of the patterns of political violence and educational inequalities in sub-Saharan Africa, with a particular look at whether and how armed conflict may exacerbate educational inequalities between ethnic and religious groups and urban and rural populations. Thirty countries were studied, and four conflict-affected countries were scrutinized in more detail: The Democratic Republic of Congo (DRC), Liberia, Mali, and Nigeria.

Findings from the Demographic Health Surveys (DHS) data show vast inequalities in education that exist between ethnic and religious groups and rural and urban populations across sub-Saharan Africa. In almost half of the sample, 14 countries, women living in urban areas have more than twice as many years in school than women living in rural areas. Across the 30 countries studied, urban residents have on average one more year of education compared to rural residents. Among the four focus countries, the greatest relative disparity in any group comparison is found in Mali, where women in rural areas have an average of only 0.6 years of schooling, compared to 3 years in urban areas. In Liberia, the average years of education among urban women is three times higher than among rural women (5.1 years compared to 1.7 years).

In five countries, the differences between the two largest ethnic groups are so extensive that the most privileged group has twice as many years in school as the least privileged; Nigeria, Chad, Côte d'Ivoire, Burkina Faso, and Ghana. Overall, Nigeria has the most severe inequalities across all the different group comparisons. Among Hausas, the largest ethnic group in Nigeria, women have on average 1.6 years of schooling as compared to the Yoruba women, who have on average more than 9 years of schooling. A similar disparity exist for Nigeria's other large ethnic groups: Igbo women also have on average more than 9 years of schooling while Fulani women have on average only 0.8 years.

In eight countries, women belonging to the most privileged among the two largest religious groups has twice as many years of schooling than the least privileged group; Togo, Nigeria, Senegal, Côte d'Ivoire, Benin, Chad, Ethiopia, and Liberia. To a large extent this reflects a difference between Christians and Muslims. Across the surveys, Christians have on average 1.4 more years of education compared to Muslims. In Liberia and Mali, Christian women have more than double the average education length of Muslim women, while in Nigeria average education years is more than three times higher among Christians when compared to that of Muslims.

Education inequalities cluster regionally in sub-Saharan Africa. While Southern Africa has relatively small differences, a belt stretching from West Africa, across Central Africa and into Kenya displays extensive ethnic, religious, and rural/urban education inequalities. One of the focus countries in this report, Nigeria, displays perhaps the most severe religious and ethnic group inequalities on the continent.

An analysis of conflict data (from the Uppsala Conflict Data Program (UCDP)) overlaid with the educational inequality maps suggests that conflict is not a major contributor to educational group inequalities in sub-Saharan Africa. The report concludes that there are only marginal differences in ethnic and religious education inequality between high-conflict and non-conflict regions. Individual-level analyses for all 30 countries suggest that in some conflict contexts, notably in two of the focus countries,

DRC and Liberia, education is negatively affected. However, past conflict appears to be a surprisingly weak predictor of low education across the continent as a whole.

The absence of a stronger negative impact of armed conflict on education could indicate that local communities are often quite resilient and that, while education may be interrupted during the most severe phases of conflict, the long-term effects may be limited. It could also mean that the efforts taken by governments, donor organizations, and non-governmental organizations (NGOs) to provide education and other services in conflict and post-conflict settings help to even out the negative effects of conflict.

Although this report may not provide direct policy recommendations with respect to how USAID can improve education operations in conflict and post-conflict settings, documents the vast inequalities in education that exist between ethnic and religious groups and rural and urban populations across sub-Saharan Africa. While the evidence that armed conflicts are exacerbating these inequalities may be lacking, the importance of improving education for marginalized populations across the continent cannot be overstated.

1. INTRODUCTION

Despite recent global educational improvements, various forms of inequalities in education persist, particularly in developing countries. In crisis and conflict-affected environments, these inequalities may be further pronounced due to the sometimes detrimental effects of armed conflicts and natural disasters on education. Goal 3 of the U.S. Agency for International Development's (USAID's) Education Strategy calls for providing equitable access to 15 million learners in crisis- and conflict-affected environments by 2015. In addition, the strategy recommends carrying out rigorous studies to further the understanding of the linkages between educational inequalities and conflict. This study is intended to contribute to that goal.

It can be argued that existing educational inequalities could trigger armed conflict, as groups seek to redress grievances. However, it is equally plausible that armed conflicts may cause or at least intensify group inequalities in education as a result of local school infrastructure being severed. Such inequalities may persist after the end of conflict, possibly also resulting from intentional, systematic neglect by the government of opposing groups in the aftermath of conflict. While much attention has been paid to the former relationship, where inequality is seen as a driver of conflict, little systematic empirical work has been undertaken to investigate the possible impact that armed conflict could have on creating or exacerbating existing inequalities. Several studies have found a negative impact of armed conflict on education globally across countries over time (Lai & Thyne, 2007) and in countries like Uganda (Deininger, 2003), Rwanda (Lopez & Wodon, 2005) and Tajikistan (Shemyakina, 2006).

This report briefly reviews the literature on the impact of conflict on educational inequalities. An overview of the patterns of (1) educational inequalities and (2) conflict events is then provided for 30 countries in sub-Saharan Africa, with an in-depth focus on four countries: the Democratic Republic of the Congo (DRC), Liberia, Mali, and Nigeria. For the purposes of this study, years of schooling among women are analyzed as a proxy for educational attainment. This information was retrieved from the Demographic and Health Surveys (DHS),[1] nationally representative household surveys collected between 1990–2012 that provide data for a wide range of monitoring and impact evaluation indicators in the areas of population, health, and nutrition. Next, geo-coded conflict data from the Uppsala Conflict Data Program (UCDP), the leading international conflict data provider, are used to show the history of conflict events. In order to examine the relative correlation of conflict to educational attainment, the various measures of educational inequality are linked with the geo-coded conflict data. Last, the report discusses results relevant to USAID and other stakeholders.

Data sources were not available that allowed for tracing changes over time with an acceptable level of precision. As a result, strong causal claims cannot be made as to whether conflict affects educational inequalities or the other way around. However, a conclusion that emerges from this mapping is that the footprint of armed conflict in educational inequalities appears to be surprisingly light. This conclusion is further supported by statistical analyses for all countries, suggesting that past conflict in the home region has limited, if any, effect on women's years of education.

Unfortunately, any mitigating or exacerbating dynamics between conflict and education are challenging to trace with the data at hand because education is measured several years after the conflict took place. In the years following a conflict, people may have moved in and out of the area, or the accessibility of education may have improved significantly. Another qualification is that we are not able to measure the quality of the education that the women received. Hence, one could speculate that women in conflict areas on average have been receiving education of lower quality than women in non-conflict areas;

1. The reason for focusing exclusively on female education is that women make up vast majority of respondents in the Demographic Health Surveys.

however, this is not something we can tell from the data. These factors call for a cautious interpretation of the results pertaining to conflict and education shown here.

What this report does document very clearly are the vast inequalities in education that exist between ethnic and religious groups and rural and urban populations across sub-Saharan Africa. While the evidence that armed conflicts are exacerbating these inequalities may be lacking, the importance of improving education for marginalized populations across the continent cannot be overstated.

2. LITERATURE REVIEW

CONCEPTUALIZING INEQUALITY

Current thinking about inequality tends to place the individual firmly at the center of concern, and measures of inequality typically relate to the ranking of individuals (or households) vertically within a country or sometimes globally. In the development literature, such inequality between individuals is often referred to as "vertical inequality." This definition of inequality neglects a vital dimension of human well-being and social stability, namely the group dimension. Sen (1992) argues that general analyses of inequality must, in many cases, proceed in terms of groups—rather than specific individuals—and that one should focus on variations between groups. This concern has more recently sparked a number of case studies, spearheaded by Frances Stewart, a leading development economist at Oxford University. She focuses on the role of "horizontal inequalities" (HIs),[2] or systematic socioeconomic and political inequalities between ethnic, religious or regional groups, in affecting conflict likelihood and conflict dynamics (Stewart, 2002; Stewart, 2008).

Further, group inequalities are conceived of as inherently multidimensional, encompassing economic, social and political dimensions, unlike previous accounts and measures of inequality that often concentrate exclusively on economic inequality (usually operationalized as income inequality or inequality in land distribution). In brief, the horizontal or group inequality argument states that inequalities coinciding with cultural divisions may enhance group grievances, which in turn may facilitate mobilization for armed conflict. Schooling policies are often used as a discriminatory policy by governments against minority groups (de Soysa & Wagner, 2003). For example, in South Africa under apartheid, state education expenditure per white student was 14 times the expenditure per black student (Stewart, 2002: 24).

CONFLICT AND INEQUALITY

The role of vertical inequality in causing violent conflict to break out is much debated and contested (e.g. Collier & Hoeffler, 2004; Fearon & Laitin, 2003; Sambanis, 2002). There appears to be somewhat stronger support for the expectation that higher levels of horizontal inequalities may trigger conflicts (Østby, 2008a; Østby et al., 2011; Stewart, 2008). The opposite causal relationship, whether conflict may cause or exacerbate inequalities, is much less studied, despite being highly plausible. The following section discusses main factors contributing to inequality as well as the possible impact of armed conflict.

ORIGINS OF SYSTEMATIC INEQUALITIES

A primary focus of this report is group inequalities. There can be many causes and origins of systematic economic and social differences between different ethnic and religious groups, or regions. They may relate to different factors such as environmental conditions including the distribution of natural resource

2. "Group inequality" and "horizontal inequality," are concepts used to describe economic or social differences between groups, in this context differences in average education levels between different religious or ethnic groups, as well as differences between urban and rural populations.

endowments, differential historical impacts of colonialism, as well as discriminatory policies (Brown & Langer, 2010). While group inequality may arise from deliberate, discriminatory policies, it may also be a result of groups not being able or willing to fully benefit from the modernization process (Gurr, 2000). Moreover, as shown in Østby (2008b), horizontal or group inequalities tend to reproduce over time. An initial advantage often leads to long-term cumulative advantages, as resources and education allow the more privileged groups to secure further advantages (Stewart, 2008). For example, couples having grown up in poor communities usually have less access to good schooling and must travel further, in social and geographical terms, to raise their own children out of poverty.

CONFLICT AND EDUCATION

The consequences of armed conflict go beyond direct casualties. Research has documented how wars affect public health (Ghobarah, Huth & Russett, 2003; Li & Wen, 2005; Urdal & Che, 2013), economic performance (Kugler et al. 2013), and education (Brown, 2011; Deininger, 2003; Lai & Thyne, 2007; Lopez & Wodon, 2005; Shemyakina, 2006).

In the most extensive study to date on consequences for education of armed conflict, Lai & Thyne (2007) found that an average year of civil war reduced education spending at the state level by more than 3 percent. They found a similar decline in enrollment, with the largest percentage decline in tertiary education. In addition, Lai and Thyne specifically singled out the DRC and Liberia as countries where war had a particularly detrimental effect on education.

One aspect of education inequality that has been scrutinized empirically in the context of conflict is gender inequality. Women and girls are likely to experience crises differently from men and boys. In conflict settings, traditional gender roles can work against both girls and boys when it comes to educational opportunities. On one hand, it may be expected that young males are deprived of educational opportunities if they have to fight for either the state or the rebels during periods of civil conflict. On the other hand, increased poverty as a result of conflict may force parents to prioritize their investments between their children, potentially pulling more daughters than sons out of school. Also, safety and security issues may pertain to girls to a larger degree than to boys, with girls having high risks of sexual and gender-based violence when moving outside the home.

Statistical studies do not support the idea that female education is more negatively affected by war than male education, however. Lai & Thyne (2007) found that secondary male enrollment was affected more by civil wars than secondary female enrollment. Previous research, which looked at data from 70 developing countries from 1970 through 2010, found that the gender-gap in education that exists in most countries is not affected by armed conflict (Østby & Urdal, 2013). However, ethnically mixed societies and Muslim-majority countries have higher levels of gender inequality in education, everything else being equal.

Only one study was found that systematically investigated the distributive impacts of violent conflict (Bircan, Brück & Vothknecht, 2010). The authors found that inequalities rise during war and are at the highest level in the early post-war period. Based on this research, Bircan et al. argue that conflict increases inequality indirectly by affecting economic growth. They further conclude that such increases in inequality can be reversed.

No studies were found that specifically investigated changes in educational inequality during war, however studies were identified which noted high inequalities in education in conflict areas such as Mauritius (Carroll & Carroll, 2000), Bosnia (Bisogno & Chong, 2002), and Turkey (Kirdar, 2009). Desai & Kulkarni (2008) found that educational inequalities between lower and higher castes in India declined significantly over a 20-year period from around 1980 to 2000. The authors linked this development to increased enforcement and funding for positive discrimination policies in which quotas are reserved for low-caste individuals in higher education and government jobs. Muslims, who are not subject to positive

discrimination measures, have not experienced a similar relative education increase. Okun & Friedlander (2005) also found that inequalities in educational attainment in Israel between Arabs and Jews persist. While differences have narrowed at the lower education level, they have increased over time for higher education.

There are also examples, however, that show conflicts may increase education levels even for minority groups. De Groot & Goeksel (2011) found education in the Basque region of Spain to increase during conflict, arguing that conflict gave young people in the region stronger incentives to increase their social and economic opportunities through more education.

Although there is a lack of empirical studies addressing conflict as a potential cause of horizontal inequalities, it is very plausible that ethnic and religious groups may be affected differently by armed conflict, hence potentially amplifying group inequalities. Theoretically, increased inequalities as a result of armed conflict could be either intentional or unintentional. Intentional inequities would likely follow along ethnic or religious lines, which may have caused the conflict. For example, the government may engage in punitive actions like cutting social spending to areas populated by a particular ethnic group. Unintentional inequalities may arise as a result of armed conflict events taking place in more peripheral areas populated by already marginalized ethnic groups. Continued fighting in these areas may drive away educators and also keep children from attending school.

3. DATA ANALYSIS

EDUCATION DATA RESULTS

It is a formidable challenge to get at objective and comparable data on educational inequalities. Horizontal or group inequalities in schooling can be politically sensitive, and national and subnational governments are likely to report biased data if any. One solution to this problem is to construct data on educational inequalities based on national surveys that include information on educational accomplishment as well as ethnic, religious, regional and urban/rural group affiliations. As a result, this report relies on data from recent Demographic and Health Surveys (DHS) for a total of 30 countries in sub-Saharan Africa.[3]

Appendix 1 includes information on the average years of education broken down by the two largest ethnic and religious groups, as well as on urban and rural populations.[4] For ethnicity, the largest and second largest groups as they appear in the survey are included. For religious groups, the original and survey-specific sub-categories have been merged into four broad categories: (1) Protestants and other Christian non-Catholic groups, (2) Catholics, (3) Muslims, and (4) others (including, for example, animists and individuals stating "no religion").

Based on the group averages, three "horizontal inequality" measures are constructed—one each for ethnic, religious and urban/rural—shown in Figure 1.

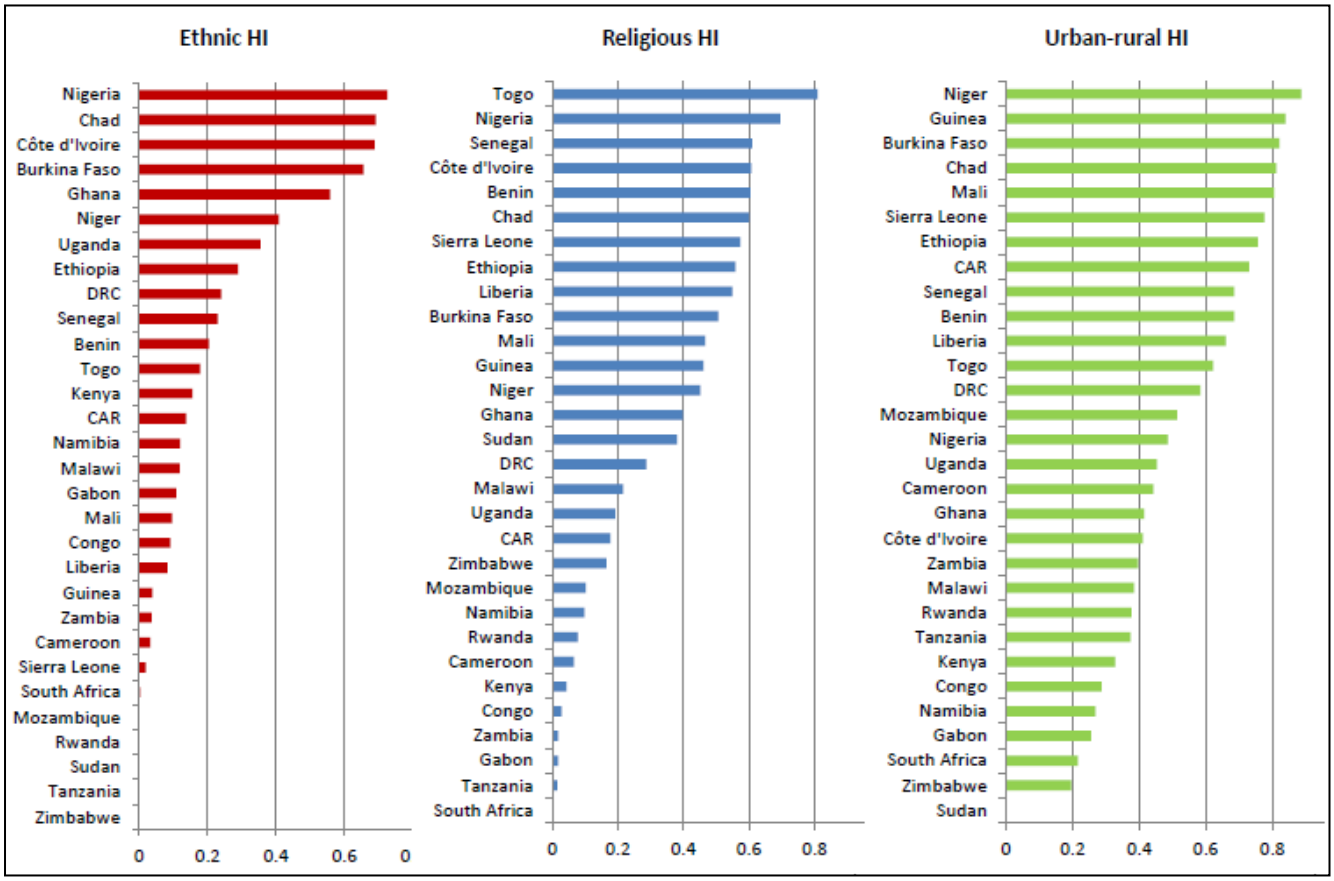
The graphic display indicates the relative difference in years of education between the two largest groups by country within each category. A value of 0.5 or above indicates that women in the favored group, which may be either the largest or the second largest group, have at least twice as many years of

3. See Appendix 1 for a map showing the countries with recent DHS surveys in sub-Saharan Africa.

4. Since the survey sample is not always representative, weights provided by the DHS for religious and ethnic groups are applied to better reflect the actual size of the groups. For details on size and average years of education for all groups listed in the DHS, see Appendix 3 (ethnicity), Appendix 4 (religion), and Appendix 5 (urban/rural). Appendix 6 provides the average years of education.

education as women in the less favored group. For another graphic display comparing the three horizontal inequality measures for each country, see Appendix 8.

Figure 1. Horizontal inequalities between two largest groups (1990-2012), sorted by size



Data results from the analysis of educational inequalities include:

- In five of the countries included, the average number of education years among the women surveyed is less than 2 years. (Also see Appendix 1, Table 1.)
- In more than a third of the sample, 11 countries, the average education is less than 3 years.
- Overall, the urban-rural divide accounts for the largest educational inequalities. In almost half of the sample, 14 countries, women living in urban areas have more than twice as many years in school than women living in rural areas.
- In several countries, ethnic and religious differences between the two largest groups are so extensive that the most privileged group has twice as many years in school as the least privileged. For ethnic inequalities, this pertains to five countries: Nigeria, Chad, Côte d'Ivoire, Burkina Faso, and Ghana. For religious inequalities, this pertains to eight countries: Togo, Nigeria, Senegal, Côte d'Ivoire, Benin, Chad, Ethiopia, and Liberia.

Among the four focus countries, the greatest relative disparity in any group comparison is found in Mali, where women in rural areas have an average of only 0.6 years of schooling, compared to 3 years in urban areas. In Liberia, the average years of education among urban women is three times higher than

among rural women (5.1 years compared to 1.7 years), while in both the DRC and Nigeria urban residents have on average about twice as many years of schooling than those living in rural areas.

Religious divides are also significant. In Liberia, Mali and Nigeria, average schooling among Muslim women is much lower than for Christian women. In Liberia and Mali, Christian women have more than double the average length of education of Muslim women, while in Nigeria the average number of years of education is more than three times higher among Christians than Muslims.

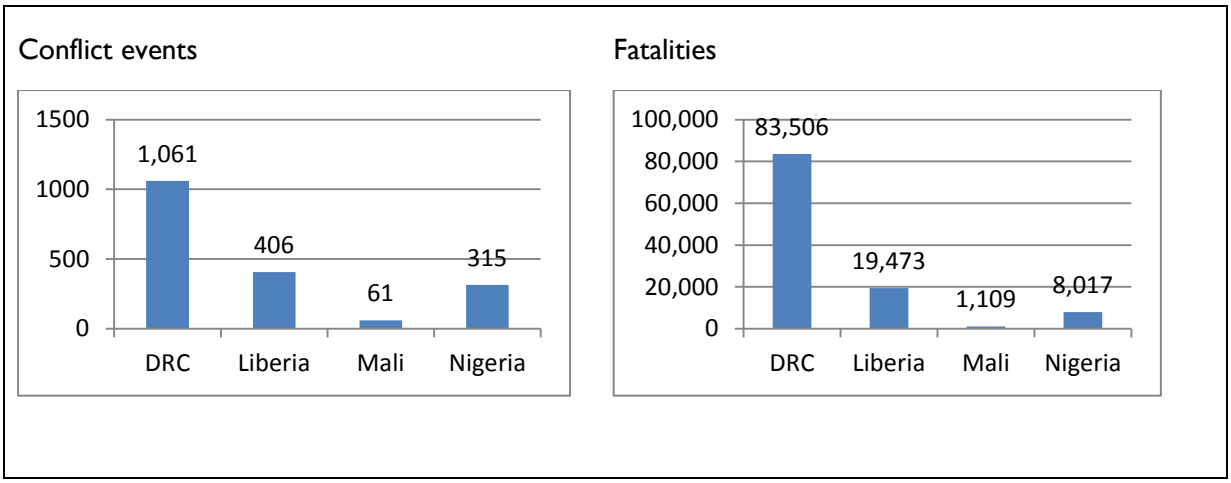
Overall, Nigeria has the most severe inequalities across all the different group comparisons. Among Hausas, the largest ethnic group in Nigeria, women have on average 1.6 years of schooling as compared to the Yoruba women, who have on average more than 9 years of schooling. A similar disparity exist for Nigeria's other large ethnic groups: Igbo women also have on average more than 9 years of schooling while Fulani women have on average only 0.8 years. These education differences also reflect religious differences as Hausa-Fulanis are mostly Muslim, while Yorubas and Igbos are predominantly Christian.

CONFLICT DATA RESULTS

In order to analyze conflict events, this study draws on a new data resource produced by the Uppsala Conflict Data Program (UCDP). The UCDP's geographical conflict data,[5] the UCDP-GED (Sundberg & Melander, 2013), codes individual events in all armed conflicts registered by the UCDP by exact location, date, and type. Currently, the dataset covers only sub-Saharan Africa for the 1989-2010 period, and includes events related to all three UCDP conflict categories: *state-based* conflict (armed conflict where at least one party is the government of a state), *non-state* conflict (communal and organized armed conflict where none of the parties is the government of a state), and *one-sided* violence (intentional attacks on civilians by governments and formally organized armed groups). The GED dataset contains approximately 22,000 events and an estimated 750,000 deaths in total. (See Appendix 9 for details and regional distributions.)

Figure 2 shows the level of conflict events and fatalities[6] for the four focus countries for the 1991-2005 period, a similar time period to that of the education data. DRC had by far the highest number of conflict events and fatalities.

Figure 2. Conflict events and fatalities, focus countries (1991-2005)



5. See http://www.ucdp.uu.se/ged/

6. Using the recommended 'best estimate" for casualties.

CONFLICT AND EDUCATIONAL INEQUALITY: WHAT THE DATA SAY

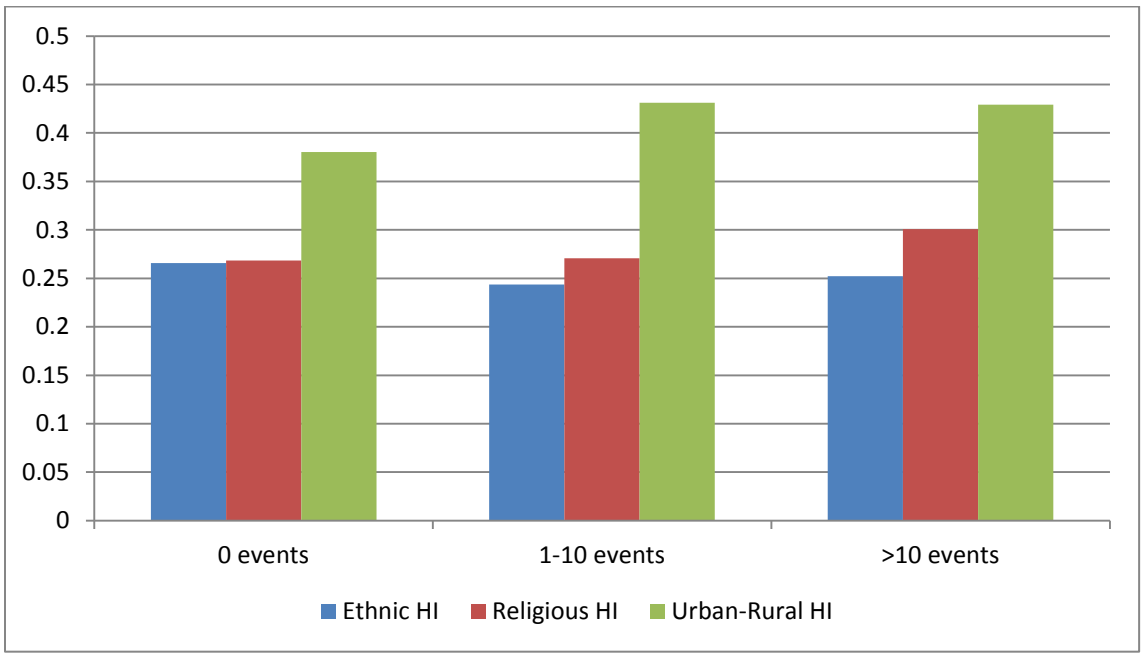
In order to examine the relationship between conflict and educational inequality, the geo-location of conflict events was used to construct regional and state-based measures that were then overlaid with the educational inequality maps. For the individual-level study of determinants of education, regional conflict measures were used. Summary statistics for the full sample of 30 countries are discussed, before looking into the four focus countries in more detail.

In order to examine how conflict may affect education, conflict events from earlier years are used for the analysis. Because primary education is typically achieved around the ages 5 through 15, the conflict data need to allow for this time lag in order to capture the impact of conflict during the childhood years for the respondents. In this case the conflict data range of 1991–1995 was selected.

First, a simple (bivariate) relationship was calculated between past conflict experiences and educational inequalities. Then additional statistical analyses were conducted to investigate any other important factors influencing the relationship between the conflict and educational inequalities, such as urban/rural residency, age and religion, in addition to past conflict experience. (See Appendix 12.)

Figure 4 distributes the 397 regions in our sample into categories based on their conflict history from 1991 through 1995. If armed conflict increases educational inequalities, we would expect that the average levels of inequality would be significantly higher in regions that had experienced some conflict, and particularly in the regions that had seen very extensive conflict activity. Figure 4 provides little support for such an expectation. There are only marginal differences in ethnic and religious inequality between high-conflict and non-conflict regions. Urban-rural inequality is greater in conflict areas than in non-conflict regions. However the difference is small, and could also reflect that more educated individuals have moved out of the area during and after conflict. In conclusion, the data do not firmly suggest that conflict is linked to inequalities in education.

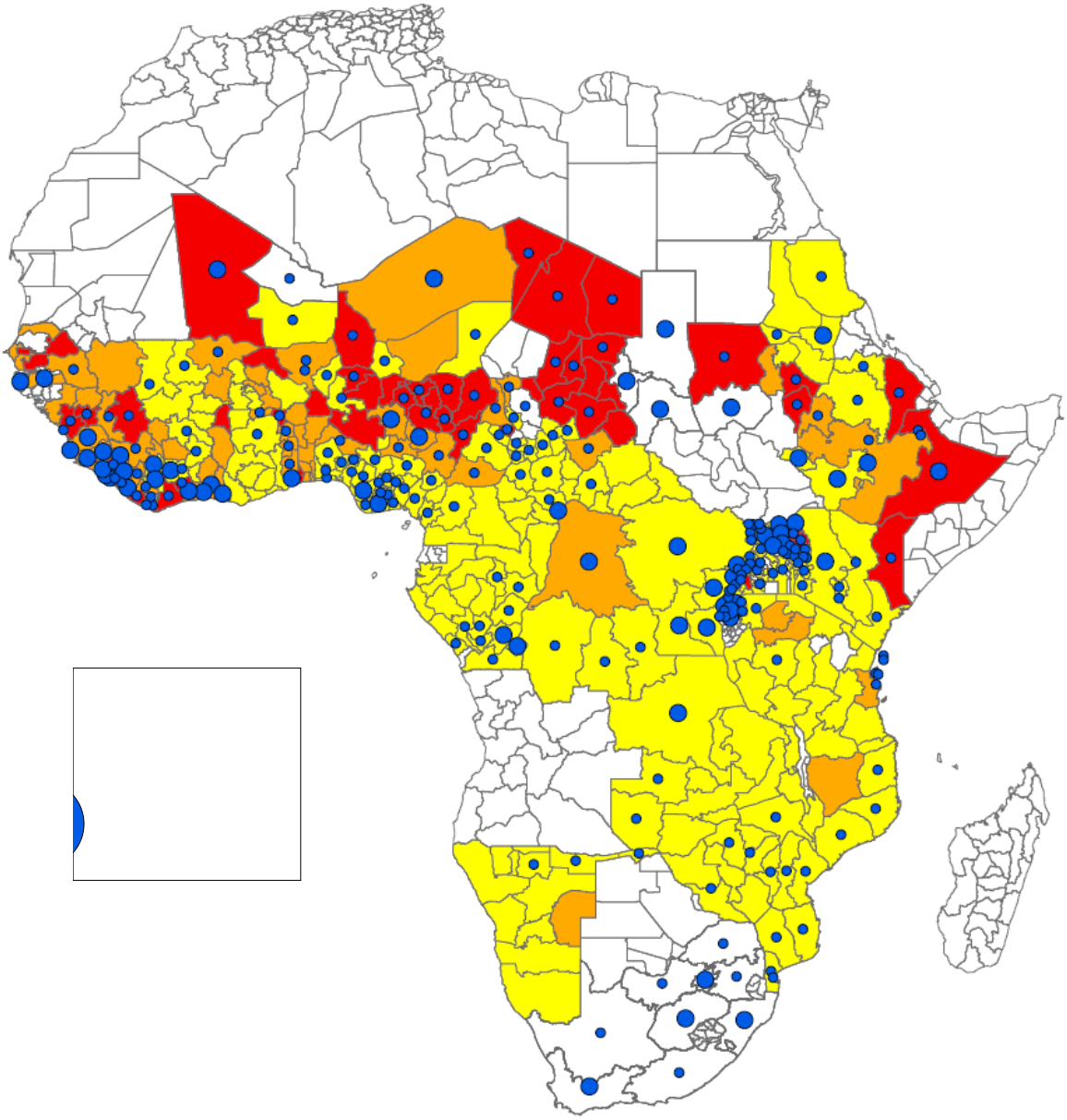
Figure 4. Group inequalities for high, medium and non-conflict regions (1991–1995)



*N=397 (260 with no conflict events, 91 with 1-10 events, and 46 with more than 10 events). The figure looks almost identical for the entire 1991-2005 period, and for conflict versus non-conflict areas; see tables A26 and A27 in the Appendix.

Figure 5 displays the same data in a map, showing levels of religious inequality and conflict events. (For similar maps for ethnic and rural/urban inequality, see Figures 8A and 9A in Appendix 10.) Neither of the maps reveals any visual patterns suggesting a clear relationship between conflict and educational inequality.[7]

Figure 5. Conflict events and religious education inequality by region, SSA



Also when assessing the maps for the four focus countries (below) in detail, the data do not reveal a very clear relationship between conflict and educational inequality. In total there are 72 regions in the 4

7. These maps displayed conflict events for the entire 1991-2005 period for illustration. Country maps below display conflict events by period.

countries. Half of these regions experienced at least one conflict event during the years 1991–1995. As in Figure 4 above, the inequality scores are not very different when comparing the regions that have experienced recent conflict and those that have not.. For space reasons, only maps of particular interest for each of the focus countries are displayed. Additional maps are available in the Technical Appendix.

The Democratic Republic of the Congo

The Democratic Republic of the Congo (DRC) has been seen by many as the epitome of a collapsed state, torn by conflicts on many levels—regional, national and local—intertwined and complex. Rebel factions have been fighting the government, fighting each other, attacking civilians and been subjected to infighting.

Figures 6 and 7 show maps of ethnic and rural/urban education inequality respectively, overlaid with conflict events. The red color signifies high inequality, orange, medium, and yellow, low levels of inequality. Again, the picture is not very clear. When it comes to ethnic horizontal inequality (HI), the most conflict-affected regions are orange (indicating medium level HI, relative to the average of the four countries), whereas the most unequal region in this regard, Equateur, had few conflict events and none in 1991–1995. Also, the Kivu regions, which are highly conflict-affected, do not stand out in terms of urban-rural inequality. However, the data shows that most of the events happened in the Kivu regions and Province Orientale, and inhabitants in these regions have on average slightly less education than the more southern and western regions. (See Figure A10. in Appendix 11.)

Figure 6. Conflict events and ethnic group inequality (education levels) by region, DRC

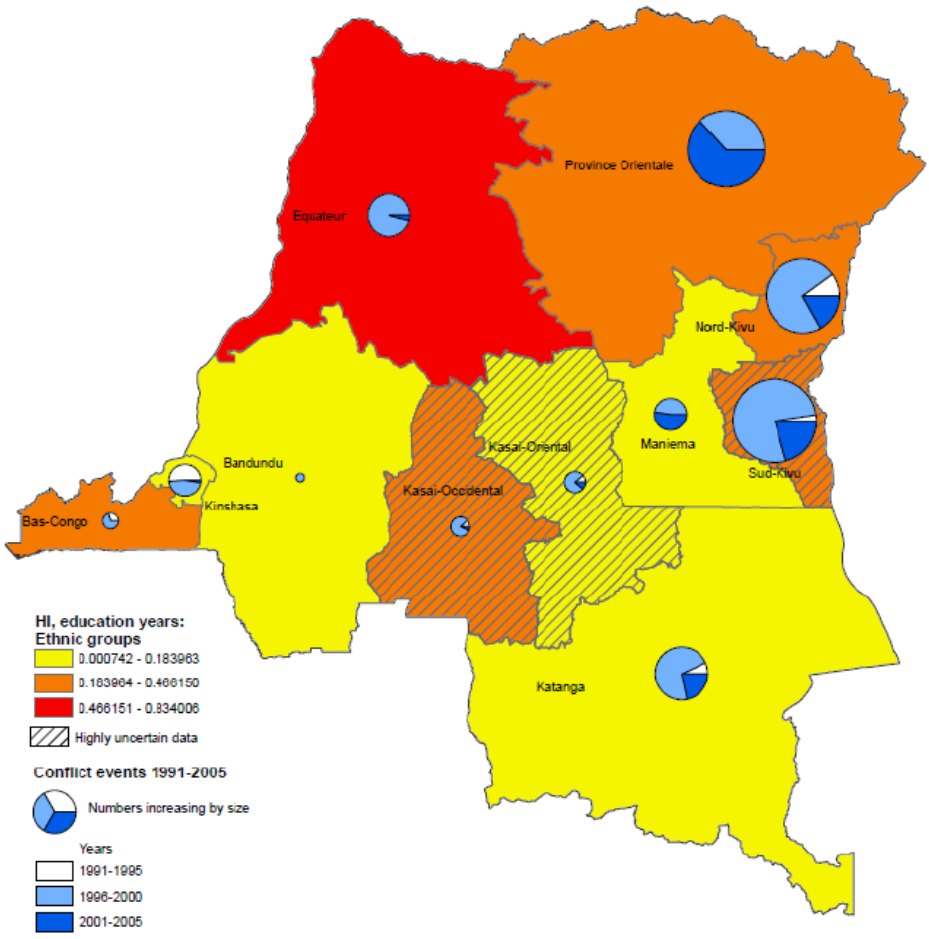
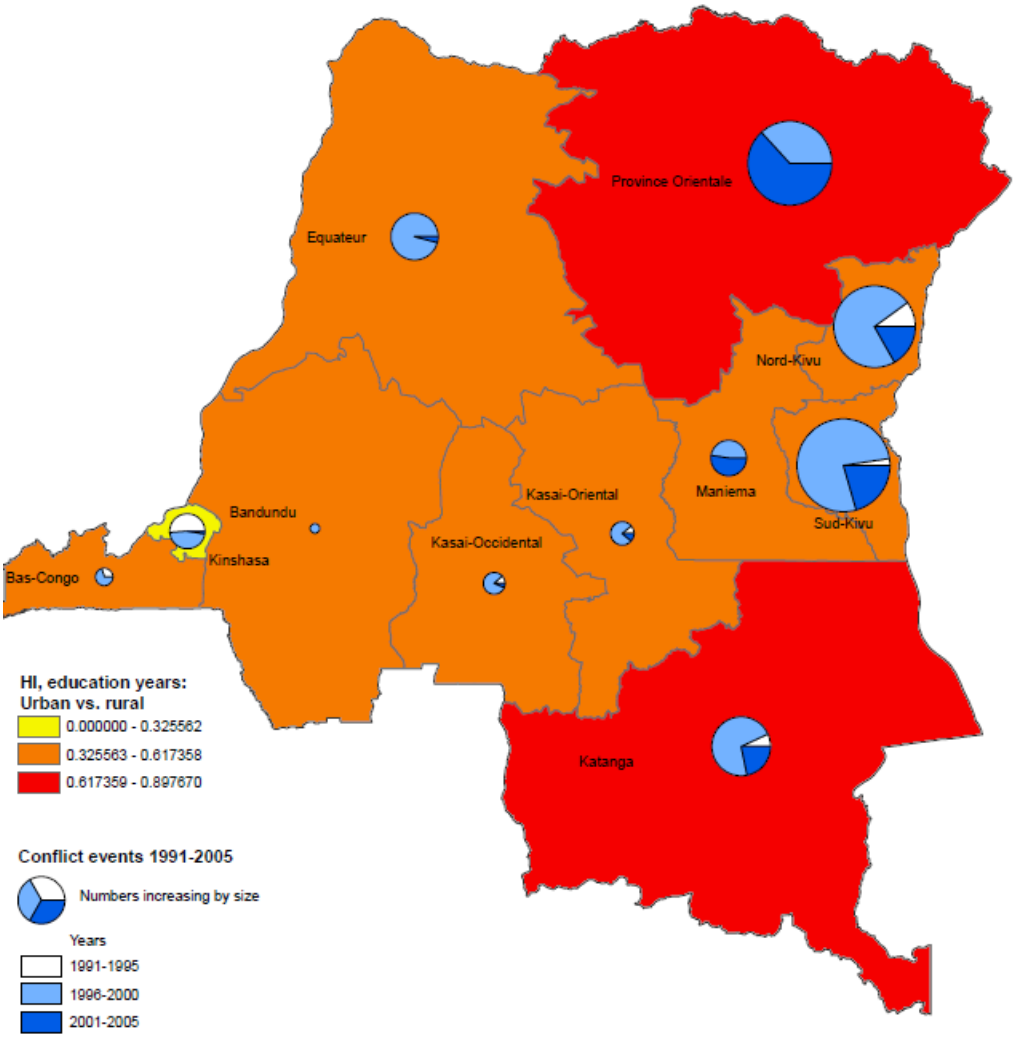


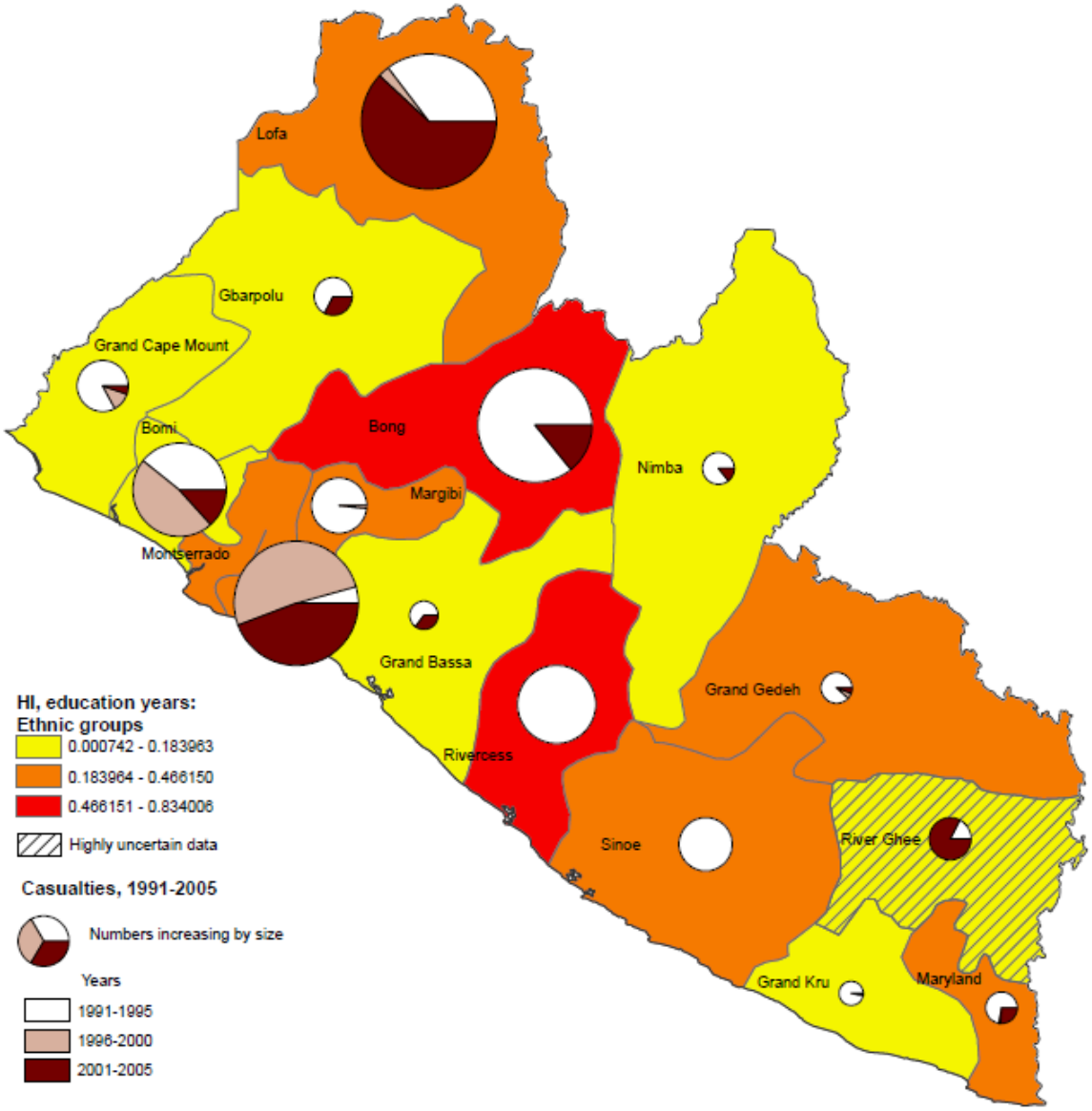
Figure 7. Conflict events and urban-rural inequality (education levels) by region, DRC



Liberia

During the 14 years of civil war, more than half the population of Liberia became refugees and 200,000, or about 8 percent of the population, were killed in fighting or massacres (Humphreys & Richards, 2005). All the regions in Liberia experienced a number of conflict events in 1991–1995, with the highest figures in Lofa, Bong, and Rivercess counties. The women in these regions also had relatively low average education levels in 2008. (See Figure A13 in the Appendix.) This picture becomes clearer if we focus on conflict fatalities and group inequality. Figure 8 suggests that conflict-affected regions have stronger ethnic group inequalities, while there is a less clear pattern with regard to conflict and religious and urban-rural group inequalities (Figures A14 and A15).

Figure 8. Conflict fatalities and ethnic group inequality (education levels) by region, Liberia

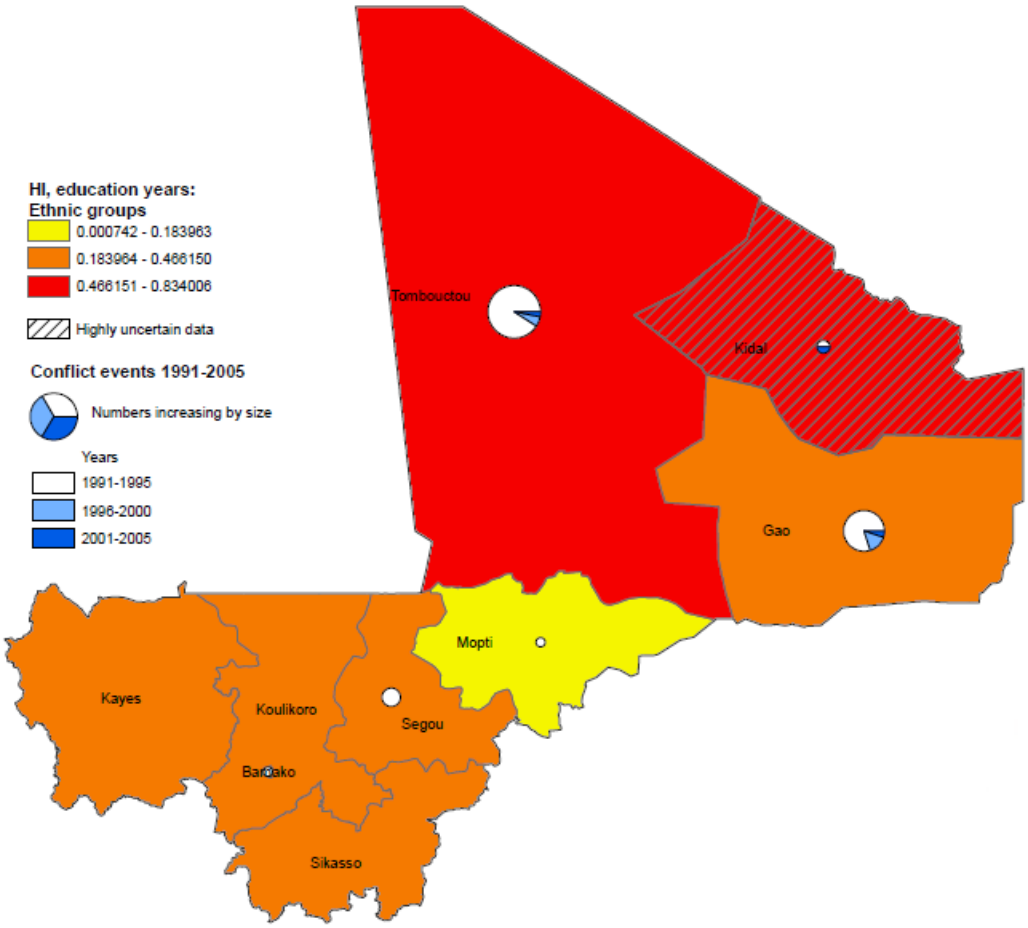


Mali

The Malian civil war, which lasted from 1990 to 1995, was initiated by the rebellion of the Tuaregs, a marginalized ethnic group located in the northern parts of the country. This five-year war toppled a dictatorship and brought hardship to an impoverished civilian population already burdened with poor educational opportunities and resources.

There was little regional variation in terms of education levels in 2006, with female education levels being low across the country. (See Figure A16 in the Appendix.) The conflict events mostly stem from the 1991–1995 period, and were located primarily in two regions, Tombouctou and Gao. Figure 9 indicates that there are greater ethnic inequalities in the most conflict-ridden regions in northern Mali. The maps for religious and urban-rural inequalities look almost similar.

Figure 9. Conflict events and ethnic group inequality (education levels) by region, Mali

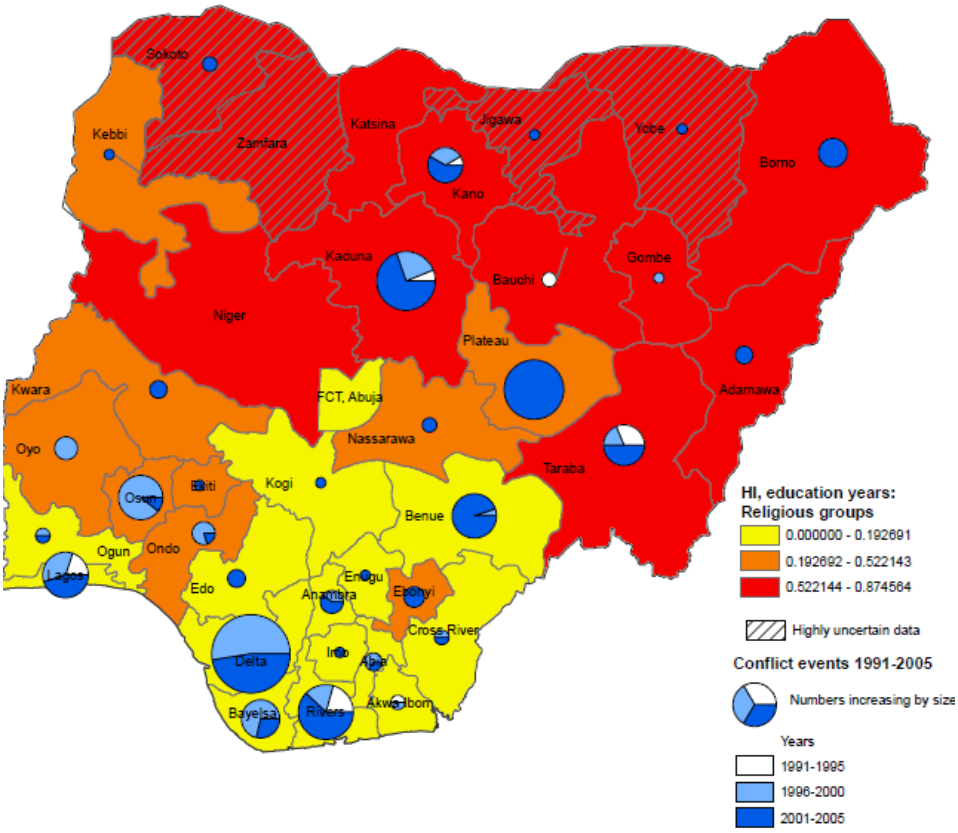


Nigeria

Since 1991, Nigeria has experienced interstate and internal conflict, non-state conflict, and one-sided violence as defined by the Uppsala Conflict Data Program (UCDP). No clear pattern emerged from a simple comparison of conflict and education levels. (See Figure A17.) If anything, the northern regions, which are generally characterized by lower education levels, have had fewer conflict events and fatalities historically.

Nigeria is home to a variety of religious and ethnic groups, which causes great regional variation. This situation accentuates regional and ethnic distinctions and has often been seen as a source of "sectarian" conflict among the population. Religiously, Nigeria is divided fairly equally between Islam in the north and Christianity in the south. There are clear inter-regional inequalities in terms of education, with the northern regions having much lower female education levels than the southern regions. (See Figure A18.) Figure 10 shows the north-south divide and also inter-regional differences between the northern regions in particular. Not only are education levels lower overall in the northern provinces, but inequalities are also by far greatest in the north.

Figure 10. Conflict events and religious group inequality (education levels) by region, Nigeria



4. INDIVIDUAL-LEVEL ANALYSIS OF WOMEN'S EDUCATION LEVELS

In order to understand the possible impact of conflict on educational inequalities, we conducted individual-level analyses of the DHS data for all 30 countries. The purpose is to investigate whether women living in conflict zones have lower levels of education when other important factors that affect female education are taken into account. The results are summarized in Table A5 in Appendix 11, alongside the full models for all countries.

Not surprisingly, the factors that are known from previous literature to affect women's education perform almost uniformly as expected. Urban residency and wealth are strongly and positively associated with higher education levels. In addition, education levels are consistently higher among younger women, attesting to the great expansion of education in the past decades, due to joint efforts from governments and donor agencies.

One interesting finding is that Muslims and non-Christians are severely disadvantaged in education compared to Christians. In more than two-thirds (21) of the 30 countries surveyed, Muslim women have significantly lower education levels than their Christian counterparts—even when their area of residence and wealth are taken into account. The greatest relative disadvantage is found in Nigeria, Cameroon, and Kenya, where Muslim women have spent 3 years less in school than Christian women, "net" of other

factors like income and urban residence. The effect of ethnic minority status (belonging to an ethnic group that makes up less than 5 percent of the population), is negligible compared to that of religion.

Finally, as suggested by the mapping exercise described above, the effect of past conflict, whether measured as events or casualties, on education level is limited. For the conflict-event models, just as many countries (4) return positive and statistically significant results, indicating that conflict increases education, as the number of countries that report negative and significant results. The mixed results are similar when assessing the impact of conflict casualties. These mixed results may partly reflect random statistical error, but it is interesting to note that for two of the focus countries, DRC and Liberia, the effect of conflict on education is negative and significant.

5. CONCLUSIONS, SUMMARY, AND IMPLICATIONS FOR POLICY

This report provides an overview of the patterns of political violence and educational inequalities in sub-Saharan Africa, with a particular look at whether and how armed conflict may exacerbate educational inequalities between ethnic and religious groups and urban and rural populations. Thirty countries were studied, and four conflict-affected countries were scrutinized in more detail: The Democratic Republic of Congo (DRC), Liberia, Mali, and Nigeria. The relationship between education and conflict is difficult to disentangle because causality may operate in both directions. The educational system and education policies can influence the dynamics of conflict, whereas conflict also may have major impacts on and implications for education during and after conflict. For this investigation, a cross-section of the female population in sub-Saharan African countries was examined using the extensive and detailed Demographic Health Surveys (DHS). These surveys, which systematically collect data on education and other background variables, enabled us to study education comparatively across the continent and also at the regional level within countries. One challenge for this project was that data was only available on the education levels of women ages 15–45 who went to school during their childhood and youth. Hence, historical conflict data going back 10–15 years was used, and it was assumed that conflict at that earlier time may have affected the education of those surveyed recently.

The mapping presented in this report revealed very significant differences in educational levels between ethnic and religious groups and between urban and rural populations across most countries in the region. However, there is no strong evidence that conflict is contributing to further educational inequality between groups. Individual-level analyses for all 30 countries suggest that in some conflict contexts education is negatively affected, notably in two of the focus countries, DRC and Liberia. Nevertheless, past conflict appears to be a surprisingly weak predictor of low education across the continent as a whole.

The absence of a stronger negative impact of armed conflict on education could indicate that local communities are often quite resilient and that, while education may be interrupted during the most severe phases of conflict, the long-term effects may be limited. It could also mean that the efforts taken by governments, donor organizations, and non-governmental organizations (NGOs) to provide education and other services in conflict and post-conflict settings help to even out the negative effects of conflict.

Although this report may not provide direct policy recommendations with respect to how USAID can improve education operations in conflict and post-conflict settings, its findings contribute to the identification of vulnerable groups as defined by low educational attainment levels, whatever the causes of these inequities. The maps containing regional variations in inequality across the continent show unmistakably that educational inequalities vary strongly in sub-Saharan Africa. (See Figure 9 and Appendix, Figures A8 and A9.) While southern Africa has relatively small differences, a belt stretching from West Africa, across Central Africa and into Kenya displays extensive ethnic, religious, and rural/urban inequalities in education. One of the focus countries in this report, Nigeria, displays perhaps the most extensive religious and ethnic group inequalities. Christian women in Nigeria have had more than three times as many years in school as Nigerian Muslim women. Members of the second largest ethnic group, Yoruba, have more than five times as many years in school than members of the largest ethnic group, the Hausa. Across the 30 countries examined, urban residents have on average one more year of education compared to rural residents, while Christians have on average 1.4 more years of education compared to Muslims.

This report plainly documents the vast inequalities in education that exist between ethnic and religious groups and rural and urban populations across sub-Saharan Africa. While the evidence that armed conflicts are exacerbating these inequalities may be lacking, the importance of improving education for marginalized populations across the continent cannot be overstated.

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