EXECUTIVE SUMMARY

1. Increasing the focus on adolescent girls

The Adolescent Girls Multilevel Vulnerability Index (AGI) was developed based on a growing recognition of the need to channel resources to vital—yet highly vulnerable and vastly underserved—populations of adolescent girls in Uganda specifically, and the East and Southern Africa region in general. The AGI aims to be a summary indicator that can serve as an advocacy tool to draw attention to adolescent girls, a rigorous measure to inform decisions about policymaking and macro-level resource allocation, and an instrument for planning and monitoring progress. The project is a joint collaboration between the Government of Uganda, UNICEF, and the Population Council.

A changing world where adolescents require increasing attention

As outlined in *The State of the World's Children 2011*, adolescence is a critical phase of human development during which the stage is set for later life. Adolescents (10-19 year olds) experience rapid social, physical, and emotional changes. Appropriate support structures and skills can lead to increased independence and development of positive and healthy behaviors with significant implications for society as a whole. However, without the skills to face these changes, adolescence can be a time of great risk. The introduction of complicating factors such as changes in family structure and unsafe sexual relations can threaten progress toward healthy development and achieving key milestones on the pathway to adulthood. Identifying and investing in those vulnerable to these risks will ensure adolescents emerge from this period with the economic and social assets necessary for the future.

The importance of investing in this group, however, has not always been reflected in policy and programming. Throughout developing countries, a focus on early to late childhood has led to reduced mortality rates, improved developmental outcomes, and increased access to schooling for young children. However, the world—and the East and Southern Africa Region specifically—is changing rapidly, and ignoring adolescents is becoming increasingly unsustainable. Already population age structures within East and Southern Africa are among the youngest in the world, with populations under the age 30 exceeding 60 percent. And as these countries transition from high to low fertility and mortality rates, populations of young people are expected to grow.

As the AGI and the rest of the data in the main report show, adolescents face wide ranging vulnerabilities, ranging from early dropout from school to early marriage, early childbearing and violence.

Why adolescent girls?

While all adolescents—both boys and girls—are entitled to decent livelihoods, girls face disproportionate risks and distinctive consequences from the vulnerabilities experienced and play a crucial role in breaking the intergenerational cycle of poverty and driving a country's development forward. Young girls are more likely than their male peers to drop out of school, to marry at an early age, and to bear the brunt of poor sexual and reproductive health outcomes.

Girls' and boys' needs and opportunities diverge during early adolescence, with girls entering puberty on average two years earlier than boys. For many girls in the developing world, this marks the beginning of a protracted risk period during which they have little or no control over critical social, health, and economic outcomes. Sexual maturation, mounting domestic burdens, migration for work, an increasing need for disposable income and pressure for marriage or other sexual relationships compound the challenges of adolescence for young girls.

There is clear and compelling evidence that investments in girls have broad and positive impacts. Through their labor force participation, fertility choices, and health, girls can play a pivotal role in breaking the intergenerational transmission of poverty and shaping a country's development. Investments in education and employment opportunities for girls lead to greater economic contributions from this largely untapped segment of the potential workforce. Girls with access to and control over economic resources are more likely to invest in their families.

Investments in girls' education and economic empowerment have also proven effective in improving health outcomes. The importance of girls' health has implications not only for themselves but for future generations. Girls with higher levels of education make better sexual and reproductive health decisions. Investments in delaying marriage and reducing childbearing have effects on reducing population growth, and increasing age at first birth reduces health risks (Bruce and Bongaarts 2009). Girls who are healthier and those with greater education are more likely to have fewer and healthier babies. Research has shown that children born to younger mothers have greater risks of mortality before the age of five and of being stunted or underweight (Temin and Levine 2009).

2. Developing the Adolescent Girls Multilevel Vulnerability Index

We followed a four-step process for developing the AGI that was based on the approach outlined in the *Handbook on Constructing Composite Indicators* (OECD 2008). The first step was the development of a theoretical framework that could serve as a basis for selecting and combining indicators into a composite score. We then matched our framework with the available data sources and indicators and prepared the data for index construction. Lastly, the validity and robustness of the index were tested through a sensitivity analysis.

Developing the theoretical framework

Defining adolescence: Developing the AGI for 10-14 year-olds and 15-19 year-olds

For the purpose of the index, we follow the United Nations definition of adolescence, which refers to individuals between the ages of 10 and 19 years (UNICEF 2011). Due to the different experiences, vulnerabilities and needs of girls in early and later adolescence, the AGI is designed to look at the whole age group (10-19) as well as subgroups of early adolescence (10-14) and later adolescence (15-19).

The ecological approach, choosing dimensions and understanding multilevel vulnerability

The conception of adolescent well-being draws heavily on Bronfenbrenner's Ecological Framework for Human Development, in which the development of a person involves individuals themselves, their environment and interactions between the two. Using this framework, the AGI measures vulnerability at three different levels—the individual, household and community level. This structure was selected as a way of measuring the theoretical concept that risk factors for adolescent girls are present at multiple levels from the individual level to familial, institutional and community levels, and a girl is defined as vulnerable if she experiences risks at all of these levels.

In creating a measure of adolescent vulnerability, the AGI hopes to identify areas with high percentages of extreme vulnerability and to encourage interventions that address these multiple levels of risk.

Selecting the data and potential indicators

All of the indicators that were selected for inclusion in the index are based on extensive research on adolescence. The indicators touch on common themes of poverty, household and family structures, regional and community characteristics, housing conditions, education, employment, sexual and reproductive health, HIV/AIDS and family formation (marriage and parenthood).

In order to create an index that could be used to compare across time and countries, we relied on Demographic Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) data. These surveys are appropriate sources of data because they are nationally representative, publicly available, and generated on a periodic basis. These surveys contain information on adolescent vulnerability and are implemented through standardized guidelines at the national level. The final indicators selected for the AGI can be found in Figure E1.
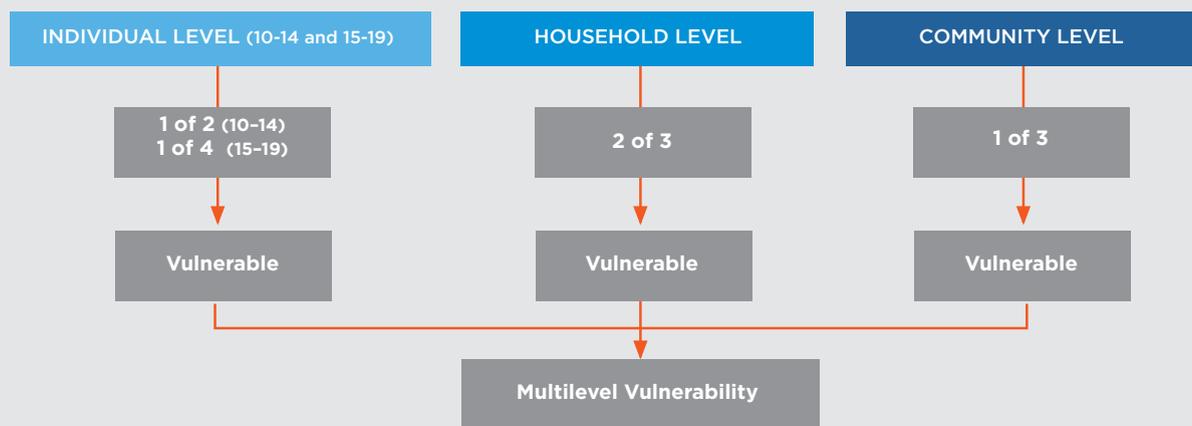
INDICATORS AT EACH LEVEL

INDIVIDUAL LEVEL		HOUSEHOLD LEVEL	COMMUNITY LEVEL
10-14 (1 of 2)	15-19 (1 of 4)	10-19 (2 of 3)	10-19 (1 of 3)
No education OR two or more years behind grade for age Not living with parents	Ever married Ever given birth OR currently pregnant No secondary school *High-risk sex:* Age at first sex under the age of 15 OR multiple partners OR non-regular partners	No access to an improved source of water No access to improved sanitation or shared facilities Household head has no education	Lives in a community that is above the mean with respect to the following indicators among women aged 20-49:* a) Marriage before 18 b) Illiteracy** c) High national prevalence of HIV (% of population aged 15-49) and high rate of no comprehensive knowledge*** of HIV for women aged 20–49 *Calculated relative to Uganda for Uganda rankings and relative to countries in region for regional rankings. **Either did not attend secondary school or higher or cannot read a whole sentence or part of a sentence. ***Comprehensive knowledge means knowing that consistent use of a condom during sexual intercourse and having just one uninfected faithful partner can reduce the chance of acquiring HIV, knowing that a healthy-looking person can be HIV-positive, and knowing that you can't acquire HIV from mosquito bites or sharing food.

FIGURE E2

CUTOFFS AT EACH LEVEL

CONSTRUCTING THE AGI

INDIVIDUAL LEVEL (10-14 and 15-19)	HOUSEHOLD LEVEL	COMMUNITY LEVEL
1 of 2 (10–14) 1 of 4 (15–19)	2 of 3	1 of 3
Vulnerable	Vulnerable	Vulnerable

Multilevel Vulnerability

The complete data selection process is outlined in the full report.

Constructing the index

With the indicators selected, decisions need to be made about what constitutes 'vulnerable' in each dimension. We follow a cut-off method similar to the approach used by the Bristol Approach and the Multidimensional Poverty Index. The vulnerability cut-offs are illustrated in Figure E2. At the individual level girls (both 10-14 and 15-19) are considered vulnerable if deprived in any one dimension. At the household level girls are vulnerable if they experience 2 of 3 deprivations. At the community level, girls are considered vulnerable if they experience 1 of 3 deprivations.

▶ **In constructing the overall AGI, a girl is considered vulnerable if deprived in all three dimensions—individual, household, community. As such the AGI is a measure of extreme vulnerability.**

For the purposes of the AGI index, dimensions and indicators were not weighted.

3. The Adolescent Girls Multilevel Vulnerability Index (AGI): Results

Overall, girls face the most extreme vulnerabilities in Karamoja and the fewest in the Western region, but significant challenges remain across the country

Within Uganda, the AGI reveals that the most challenging region in which to be an adolescent girl is Karamoja, where over half of adolescent girls between 10 and 19 (53.6 percent) are vulnerable at all three levels—individual, household and community (Table E1). According to AGI findings, Karamoja has the highest percentages of vulnerable girls at the individual (91.9 percent), household (57.0 percent) and community levels (100 percent). West Nile, where around 1 in 4 adolescent girls (26 percent) experience extreme vulnerability, is the second most challenging region, followed by Central 1 which ranks third. Vulnerability is lowest in the Western region, where 12 percent of

adolescent girls experience extreme vulnerability. Put another way, an adolescent girl is four times more likely to be vulnerable in Karamoja than in Western Uganda.

Even regions with lower levels of extreme vulnerability face challenges

The AGI is designed to measure extreme vulnerability. However, the AGI also allows analysis of less severe vulnerability which produces some interesting results. In Eastern Uganda, three out of four adolescent girls (74.9 percent) face vulnerabilities in two levels, driven by high levels of vulnerability at the individual and community levels. This places the Eastern region as one of

URBAN VULNERABILITY

The current version of the AGI is not effectively able to capture the vulnerability of adolescent girls living in Kampala. This is the case because girls living in Kampala are not classified as vulnerable at the community level as the women in these urban communities have below national average levels of deprivation when compared to other, rural parts of the country. However, results based on urban wealth quintiles show that adolescent girls aged 10 to 19 living in Kampala and in the poorest and second poorest quintiles have much higher levels of vulnerability at the individual and household level (Figure E3).

Part of the challenge is that DHS (and MICS) surveys do not collect detailed data for urban neighborhoods, and geographic identifiers used to classify regions do not correspond to slum versus non-slum areas. The inability of the AGI to capture vulnerabilities in Kampala points to a need for more information on what makes urban girls vulnerable and highlights urban vulnerabilities as a distinct and important point for further inquiry.

PERCENTAGE OF ADOLESCENT GIRLS AGED 10-19 WITH MULTILEVEL VULNERABILITY AND PERCENTAGE WHO ARE VULNERABLE AT EACH LEVEL, BY REGION, UGANDA

	MULTILEVEL VULNERABILITY			LEVEL		
	3 LEVELS	2 LEVELS	1 LEVEL	INDIVIDUAL	HOUSEHOLD	COMMUNITY
Karamoja	53.6	95.3	100.0	91.9	57.0	100.0
West Nile	25.8	79.0	97.3	85.1	31.0	86.0
Central 1	23.1	53.7	82.7	61.2	37.2	61.3
North	20.8	84.0	98.4	80.1	27.8	95.3
East Central	20.6	64.3	95.6	66.9	25.9	87.7
Central 2	16.2	60.7	93.3	63.3	26.5	80.5
Southwest	14.6	55.5	89.7	72.5	32.9	54.3
Eastern	14.2	74.9	100.0	71.4	17.7	100.0
Western	12.2	58.5	91.2	71.0	20.8	70.1
Kampala*	—	6.4	53.0	48.4	11.0	0.0

Source: DHS 2011.   Note. Preferred specification highlighted with white box.   *Refer to box on urban vulnerability on page 4.

AGI RESULTS FOR GIRLS AGED 10-19 BY WEALTH QUINTILE WITHIN KAMPALA, UGANDA
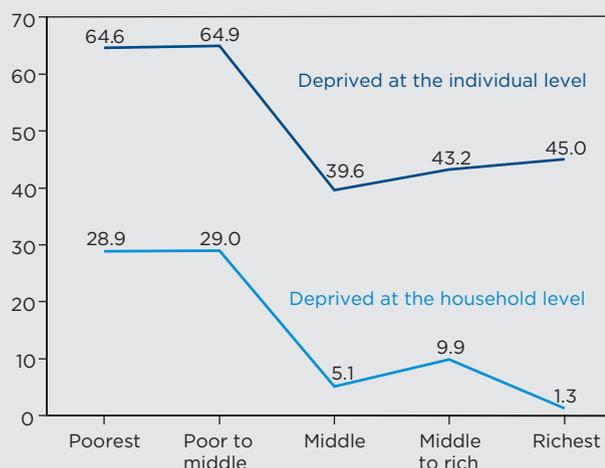
Significant at $p < 0.05$.
Source: DHS 2011.

AGI INDIVIDUAL-LEVEL RESULTS FOR ADOLESCENT GIRLS AGED 10-14, UGANDA

Source: DHS 2011.

significant vulnerability for adolescent girls. The bottom line is that even for parts of the country where relatively few girls experience extreme vulnerability, the AGI can highlight where significant challenges remain.

Disaggregating the index, who needs to improve and where

The AGI is designed to be deconstructed to look behind the overall numbers to understand the challenges that adolescent girls are facing at different levels and in different domains. The full report provides a detailed breakdown of the AGI. Some key conclusions at each of three levels suggest the following:

▶ **At the individual level, lack of education is driving much vulnerability, but with significant regional variation.**

For adolescents across the age range, education is a driving factor behind vulnerability, but with some significant variation. In Karamoja almost 90 percent of 10-14 year old girls are two years behind in their education or have never been to school (Figure E4). Some regions such as Kampala and the central regions fare much better, with around half of girls fully 'on track' in education.

For girls 15-19 a lack of secondary education is also a driving factor. In a number of regions 3 out of 4 girls or more do not have any secondary education (Figure E5). Vulnerabilities from having been married or pregnant range around 20 percent, with lower but still significant numbers of girls experiencing high-risk sexual activity.

▶ **The household level is generally less of a driver of vulnerability than individual and community levels.**

However, lack of sanitation is a key factor in many regions. Analysis shows wide variation among regions in terms of household vulnerability with the highest percentages concentrated in no access to improved sanitation (Figure E6). Adolescents in Central 1 and the Southwest face relatively greater vulnerability at the household level, as they more frequently live in households without access to an improved water source. Again education is a major challenge in Karamoja, where the percentage of girls living with household heads having no education is at least two times as high as in other regions.

▶ **Girls experience a wide range of community level vulnerabilities.**

The community-level variables capture girls who are vulnerable as a result of living in a vulnerable community environment, as measured by women aged 20-49 having greater than average deprivations in key areas (Table E2). Adolescent girls in the eastern parts of Uganda and the North live in areas with high prevalence of early marriages. Illiteracy is the dominating factor in Eastern and Karamoja, where all girls live in communities with higher than average illiteracy among women 20-49. The HIV indicator captures vulnerability among girls living both in communities with high prevalence of HIV and with limited knowledge—with the vulnerabilities highest in Central 2, Western, and the Southwest regions.

▶ **Despite challenges, there are signs of significant improvement over time.**

While challenges are significant, the AGI shows positive improvements in reducing the vulnerability of adolescent girls in Uganda over time, with the AGI falling from 32.7 percent in the 2006 to 20.6 percent in the 2011 DHS (Figure E7). This decrease in extreme vulnerability is concentrated in a decrease in household vulnerability and is due to a large improvement in access to improved water and sanitation. Changes in index rankings between 2006 and 2011 were most dramatic in the Western and West Nile regions. In both of these regions, there were reductions in vulnerabilities at all three levels.
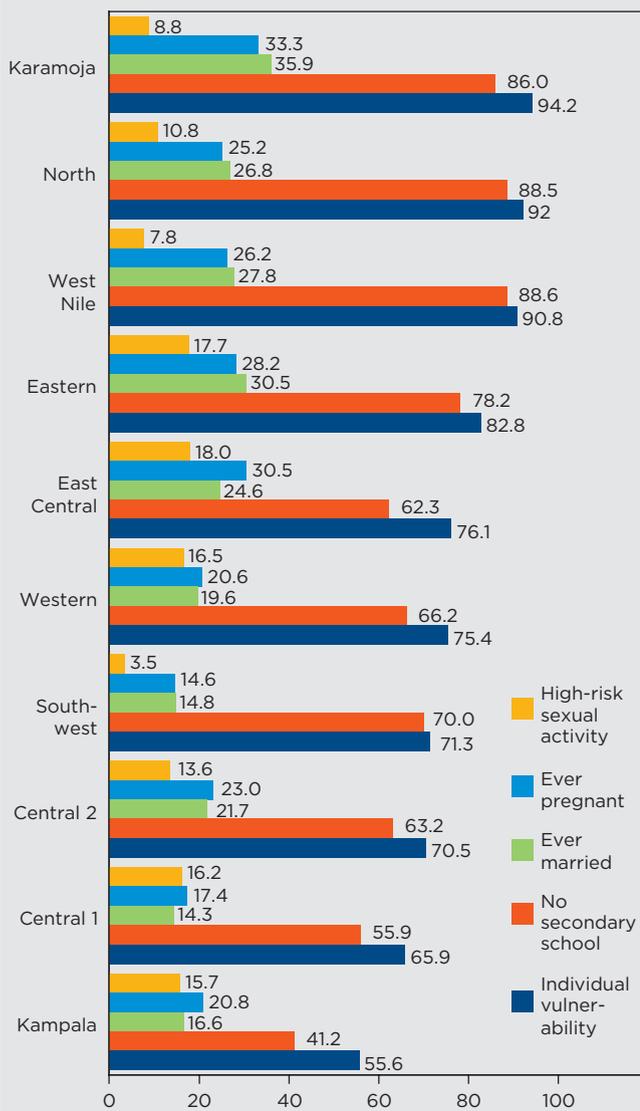
The high levels of individual- and community-level vulnerabilities and lack of change in these areas suggest that investments are needed to reduce individual- and community-level vulnerabilities.

The AGI: Uganda in the East and Southern Africa context

The AGI was designed not only for analysis within Uganda, but analysis across the region. Figure E8 presents results for the East African Community. Uganda falls in the middle of the ranking when compared to fellow members of the East African Community. Uganda performs significantly better than Burundi and Tanzania where 33.5 percent and 28.6 percent, respectively, of adolescent girls are vulnerable but significantly worse than Rwanda, where 8.5 percent are vulnerable and Kenya where fewer than 1 in 8 adolescent girls
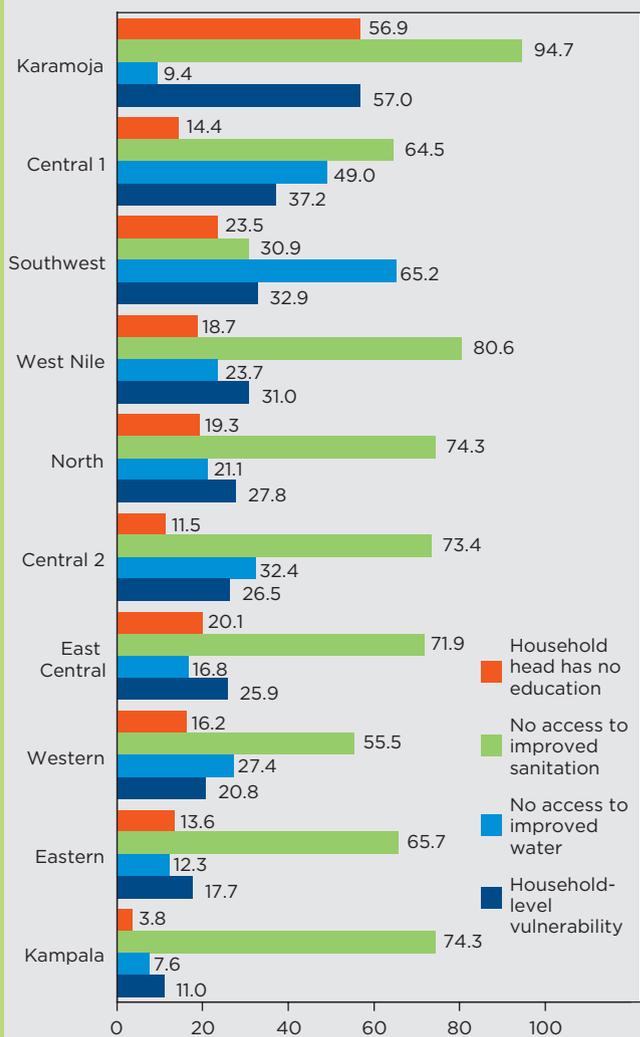
AGI INDIVIDUAL-LEVEL RESULTS FOR GIRLS AGED 15-19, UGANDA

Karamoja
- 8.8
- 33.3
- 35.9
- 86.0
- 94.2

North
- 10.8
- 25.2
- 26.8
- 88.5
- 92

West Nile
- 7.8
- 26.2
- 27.8
- 88.6
- 90.8

Eastern
- 17.7
- 28.2
- 30.5
- 78.2
- 82.8

East Central
- 18.0
- 30.5
- 24.6
- 62.3
- 76.1

Western
- 16.5
- 20.6
- 19.6
- 66.2
- 75.4

Southwest
- 3.5
- 14.6
- 14.8
- 70.0
- 71.3

Central 2
- 13.6
- 23.0
- 21.7
- 63.2
- 70.5

Central 1
- 16.2
- 17.4
- 14.3
- 55.9
- 65.9

Kampala
- 15.7
- 20.8
- 16.6
- 41.2
- 55.6

Legend:
- High-risk sexual activity
- Ever pregnant
- Ever married
- No secondary school
- Individual vulnerability

Source: DHS 2011.

AGI HOUSEHOLD-LEVEL RESULTS FOR GIRLS AGED 10-19, UGANDA

Karamoja
- 56.9
- 94.7
- 9.4
- 57.0

Central 1
- 14.4
- 64.5
- 49.0
- 37.2

Southwest
- 23.5
- 30.9
- 65.2
- 32.9

West Nile
- 18.7
- 80.6
- 23.7
- 31.0

North
- 19.3
- 74.3
- 21.1
- 27.8

Central 2
- 11.5
- 73.4
- 32.4
- 26.5

East Central
- 20.1
- 71.9
- 16.8
- 25.9

Western
- 16.2
- 55.5
- 27.4
- 20.8

Eastern
- 13.6
- 65.7
- 12.3
- 17.7

Kampala
- 3.8
- 74.3
- 7.6
- 11.0

Legend:
- Household head has no education
- No access to improved sanitation
- No access to improved water
- Household-level vulnerability

Source: DHS 2011.

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TABLE E2

AGI COMMUNITY-LEVEL RESULTS FOR ADOLESCENT GIRLS AGED 10-19, UGANDA

	PERCENT AT OR ABOVE CUTOFF	INDICATOR (AMONG WOMEN AGES 20 TO 49)		
	≥1	MARRIED BEFORE THE AGE OF 18	ILLITERATE	NO COMPREHENSIVE HIV KNOWLEDGE AND HIGH HIV PREVALENCE*
Eastern	100.0	85.3	100.0	0.0
Karamoja	100.0	15.7	100.0	0.0
North	95.3	95.3	78.9	40.3
East Central	87.7	87.7	72.2	0.0
West Nile	86.0	38.4	86.0	0.0
Central 2	80.5	58.7	12.5	71.0
Western	70.1	67.9	62.9	58.0
Central 1	61.3	61.3	8.0	26.5
Southwest	54.3	13.3	27.8	44.8
Kampala	0.0	0.0	0.0	0.0

Source: DHS 2011.
Note. Indicator percentages represent the percentage of girls ages 10 to 19 living in a community (survey cluster) that is above the regional mean.
*Indicator defined as subnational HIV prevalence (% adult 15 to 49) above national mean and no comprehensive HIV knowledge above national mean for women 20 to 49. HIV prevalence data from Uganda AIDS Indicator Survey 2011.

FIGURE E7

PERCENTAGE OF ADOLESCENT GIRLS AGED 10-19 VULNERABLE AT EACH AGI LEVEL, UGANDA, 2006 AND 2011
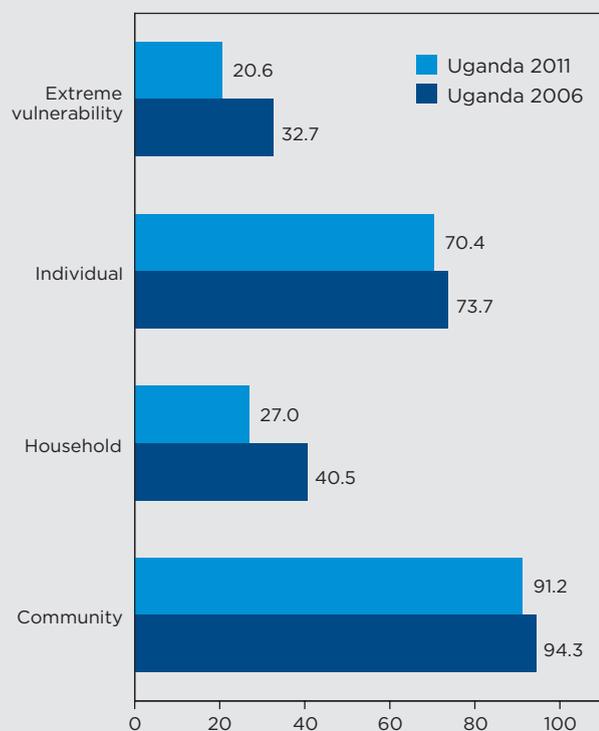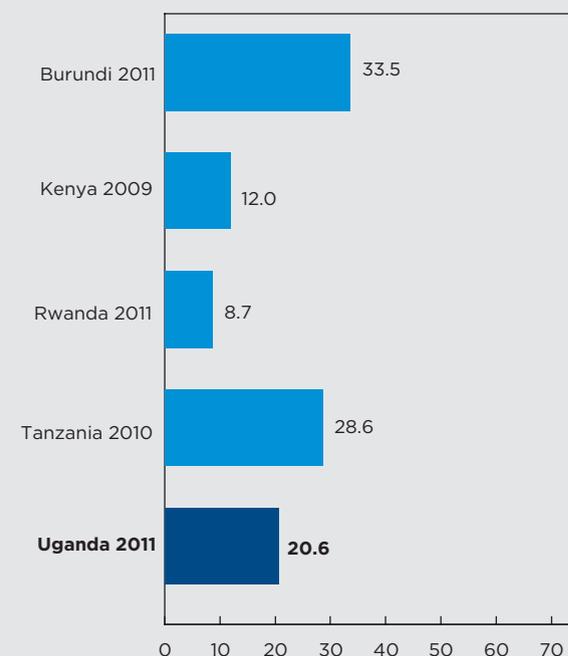

Source: DHS 2006 and 2011.
Note: Extreme vulnerability is defined as experiencing deprivations at all three levels.

FIGURE E8

PERCENTAGE OF ADOLESCENT GIRLS AGED 10-19 WHO ARE EXTREMELY VULNERABLE, EAST AND SOUTHERN AFRICA

Source: DHS 2007-2011; MICS 2006-2008.

experiences extreme vulnerability. Strikingly in Uganda the highest levels of vulnerability are at the individual and community level, rather than the household level, highlighting the need to focus on these areas.

4. Programming and policy for adolescent girls in the Ugandan context

Policy review

The research behind the AGI Report included a substantial review of policy documents, in-depth interviews with stakeholders in Uganda, and discussions with adolescent girls themselves. The overall conclusions indicate that adolescent girls do not feature as a distinct priority population in Ugandan policy, with adolescent issues falling under the mandates of both youth- and child-serving initiatives, and the country has yet to see a critical mass of public and private stakeholders converge into an adolescent 'policy camp'.

Policy implementation

Uganda has, as one representative interviewed for this analysis reported, "one of the best legal environments on paper." However, weak implementation and enforcement limit the degree to which Ugandan policy affects vulnerable girls. Further, very young adolescent girls are largely left out of the "youth" conversation, and policies are not designed to intervene early and prevent negative outcomes before their onset.

Program scan: what options do adolescent girls have?

As part of the AGI report, a nationally representative survey of adolescent-serving organizations was conducted. This involved completing a subcounty-level program scan and a 30-day coverage exercise with a sample of identified programs. A program scan answers the questions "How many?" and "What type?" A coverage exercise builds on this information to answer the question "Who is served?" Full details of the sampling approach can be found in the full report.

1. Number of programs

The average subcounty reported having 2.9 eligible programs for adolescents ages 10 to 19. The 95 percent confidence interval around this value ranges from 2.2 to 3.6, and the number of programs per subcounty is not associated with subcounty population sizes. Our estimate of the total number of adolescent programs in the country is 3,095 serving 8.2 million adolescents (excluding Kampala).

2. Types of programs

Most programs classified themselves as community-based organizations. More than half of the programs indicated that they address HIV, life skills, livelihoods, and other non-specified topics.

3. Who is attending

Program representatives reported that, on average, 58.8 percent of participants are boys. They indicated that adolescents ages 15 to 19 make up the greatest proportion of participants at 38.2 percent, followed by young adults age 19 and older (34.9).

5. Recommendations

The AGI shows that in Uganda there is a need to focus on individual- and community-level investments, particularly in some key areas.

While Uganda falls in the middle of cross-national rankings of multidimensional adolescent vulnerability, girls ages 10 to 19 have higher than average rankings of individual and community level vulnerability but lower rankings at the household level. In particular, reducing individual and community level vulnerabilities will be accelerated by:

1. increasing educational attainment and keeping girls in school;

2. strengthening HIV programming in the regions of Central 2, Western, North, Southwest, and East Central; and

3. targeting social values and cultural norms that promote child marriage and early childbearing.

POLICY RECOMMENDATIONS

Given the largely favorable policy frameworks, data on health and social outcomes for girls in this region identify lack of dissemination, enforcement, and coordination as barriers to improvement. The following recommendations are offered for improving policy implementation and potential for effectiveness in Uganda:

1 Create an inter-ministry committee at the national level to harmonize policy and coordinate government response for adolescent girls.

2 Design policies to reach very young adolescent girls with investments that can prevent negative outcomes before their onset.

3 Collect additional data that can be disaggregated below the regional level, for younger adolescents aged 10 to 14, and for material and psychosocial support at the household level.

4 Use data to locate investments and measure progress according to the internal diversity of adolescent populations in terms of age, gender, marital and schooling status, social status, economic class, living arrangements, and urban/rural residence.

5 Invest in replicable and scalable interventions in geographic areas with the highest concentrations of girls at risk of the worst outcomes.

6 Create district-level committees to monitor and address adolescent girls' issues.

7 Strengthen child protections and address social norms and cultural values that drive irremediable rights violations and mistreatment of girls at the household and community levels.

8 Prioritize interventions that improve educational quality to increase school retention and attainment.

9 Ensure that a strong program base exists that reaches vulnerable adolescent girls at ground level, puts assets directly in their hands, and creates an enabling environment in their communities.

PROGRAM RECOMMENDATIONS

Closer examination of programs and populations served makes it clear that the existing base of programming is not reaching vulnerable adolescent girls. Experience has shown the following strategies to be effective in creating girl-centered programs:

Incorporate key characteristics of successful girls programs

Before deciding on the content of the intervention, a program must have the proper structure to ensure participation of vulnerable girls. Core building blocks include ensuring there is a safe place in the community where a group of girls can meet regularly with peers, and that effective female mentors are incorporated into the program.

Focus on asset building for adolescent girls

Once the structure of a program has been developed to ensure the participation of vulnerable girls, the content and focus of the program can be decided. Providing a diverse range of social, health, and economic assets for girls has proven to be a successful approach.

Using the asset-building framework to design program content shifts the focus to a more preventive approach. The key question becomes "what do girls need?" and not "what problems do girls have?" Often, the answers to what girls need will help them in a range of areas in their lives, as opposed to focusing on a single problem that leads to a very narrow approach.

Increase programming options

Two approaches can be taken to expand programming options for adolescent girls at the community level. The first is to make changes to existing programs and institutions to allow for greater participation of adolescent girls. The second is the creation of new programs. Existing resources at the community level can be adjusted to incorporate programming elements for girls and to ensure that girls have access to the services they are entitled to on paper. These include programs at schools, churches/mosques, youth centers, and youth councils. In many cases, nothing exists at the community level in which girls can participate and new programs will need to be created. Often, a combination of making use of existing community resources and creating new programming will be necessary in order to reach vulnerable adolescent girls.

The full report is available for download at www.popcouncil.org/AGIUganda. Additional information can be found at www.unicef.org/uganda.