B | Center for Universal Education at BROOKINGS

WORKING PAPERS FROM THE
2013 ECHIDNA GLOBAL SCHOLARS

Improving Learning Opportunities and Outcomes for Girls in Africa

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THE ECHIDNA GLOBAL SCHOLARS PROGRAM

The Echidna Global Scholars Program is a visiting fellowship hosted by the Center for Universal Education (CUE) at Brookings that works to catalyze and amplify the work of leaders in girls' education from developing countries. The Echidna Global Scholars are selected through a rigorous, competitive selection process and spend four months in-residence at Brookings on research-based projects and collaborating with colleagues on issues related to global education policy. Upon return, Echidna Scholars implement projects with their home institutions based on their research findings and join the Echidna Alumni Network.

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Xanthe Ackerman

Girls' Education as a Social Movement

There is much to celebrate in girls' education. Since the Education for All movement and the setting of the Millennium Development Goals (MDGs) in 2000, the number of out-of-school girls at primary school level has dropped from 58.9 million in 2000 to 30.7 million in 2012 and the share of girls that make up the out-of-school population has decreased from 58 to 53 percent.[1] This progress is the result of deliberate action at global and national levels to reform and expand school systems, and to enroll both girls and boys in schools. In some circles, this has led to a false impression that gender parity in education has been achieved and that there is no longer a need for a policy focus on girls' education and gender equality.

The benefits of girls' education on girls and their future families have long been recognized. A mother's level of education is more indicative of a child's health and schooling than the level of education of the child's father.[2] Educated women are less likely to die in childbirth and less likely to have children who are affected by stunting. If all women had a secondary education, the number of child deaths in the world would be cut in half. Girls with higher levels of education are likely to get married later, have children later and have fewer children. Education also helps women find work and narrow the wage gap with their male peers.[3] In fact, each additional year of education can boost a woman's wages by 10-20 percent.[4]

Despite these impressive returns, progress toward achieving the education target in Millennium Development Goal 3, "to eliminate gender disparity in primary and secondary education by 2015", has flatlined since 2008 in the face of the global recession, decreased investment, and the challenge of providing services to the hardest to reach. In 2001, there were 14.4 million more girls out of school at primary age than boys. In 2008, this figure dropped to 4.1 million, but between 2008 and 2011 progress halted. The 7 million *more* girls out of school than boys—or the Girls Gap—is disproportionately concentrated in a handful of countries—such as Somalia, Afghanistan, Togo, the Central African Republic and the Democratic Republic of the Congo—where girls are still outnumbered two to one. Those most affected are poor, rural girls who face overlapping forms of marginalization.[5]

In sub-Saharan Africa, regional and local statistics are far behind global averages. The gross enrollment rate (GER) for males in secondary school at the global level is 69 percent, compared to 67 percent for females.[6] In contrast, in sub-Saharan Africa the gender parity index (GPI)—an index that measures the relative access to education of males and females—is .78 for net enrollment at the secondary level. Girls

face the most extreme educational disadvantage of any region in the world, and the problem is getting worse not better there. For example, in northern Nigeria, 65 percent of primary school children are male while only 35 percent are female.[7]

In order to truly tackle the girls' education crisis, a cross-sector approach is needed. Advocates must consider human rights, economics, culture and education, while taking into account local power structures. Advancing girls' education must be understood in context. For example, consider that girls in India are enrolling in primary school at greater rates than boys, yet an estimated 1 million girls are killed in the womb each year.[8] In Nigeria, the GPI for net enrollment at primary level is .99. Yet, 40 percent of all females between the ages of 20 and 24 are married before 18 years of age.[9] And although girls are ahead in learning outcomes in many countries, this rarely translates to equal gains in employment and the workforce. At least 90 countries in the world still have restrictions on women's economic participation and in at least 15 countries men can prevent their wives from accepting jobs.[10] Addressing the girls' education crisis requires a social movement and local leadership must be at the forefront of such a movement.

Fostering Local Leadership for Girls' Education

Marginalized populations need leaders who draw attention to the issue of girls' education. Although government leaders in developing countries generally recognize the importance of girls' education, the ministries they task to work on gender issues are often under-resourced and ill-equipped. The girls that suffer the most and are excluded from education are usually the invisible and likely to be without political representation. Therefore, they need local champions in government, in academia, in civil society, in business and in practice. These champions can articulate the challenges that local populations face in their specific contexts, and then link their perspectives to national, regional and global discourses.

The international community also has an important role to play in supporting these champions and leaders by helping them to amplify their voices globally so that advancing girls' education and gender equality does not fall off the global policy agenda. These voices can make the point that what is needed is a shift from focusing on gender *parity* to focusing on achieving gender *equality*—a vision which is far from completed.

Addressing girls' issues requires innovative and bold leadership. Education ministries are not always designed in ways that respond to the entry points, transition points or nonformal programs that are critical for many girls and child mothers. Leaders that have access to best practices and cross-country experiences can bring lessons and innovations to their countries to better address girls' education needs. Key issues related to girls' education may reside in what bureaucracies consider the private or personal sphere—one which is governed by religion or culture and is therefore difficult to confront. The practices and attitudes that keep girls from learning and participating effectively are often difficult to perceive—and sometimes shared by administrators—and are therefore hard to address. Individuals who understand the local context, but are also willing to speak on these issues have an important role to play.

Investing in local leaders and champions for girls' education can yield compounding benefits. Not only does it support their work and the achievement of their policy goals, but it supports their personal and professional development. They are then likely to transfer their new skills and knowledge to others in their communities of practice in the form of mentorship and network building.

For all of these reasons, the Center for Universal Education (CUE) at Brookings founded the **Echidna Global Scholars Program** in 2011 with the support of Echidna Giving. The program recognizes the need to build the leadership pipeline on this critical issue and works to catalyze and amplify the work of policymakers, practitioners and academics, who are leaders in girls' education from developing countries. The Echidna Global Scholars are selected through a rigorous, competitive selection process and then spend four months in-residence at Brookings working on research-based projects and collaborating with colleagues on issues related to global education policy. Upon completing the program, Echidna Scholars return to their countries to implement projects with their home institutions and join the Echidna Alumni Network. Their research is an important contribution to CUE's work on education for marginalized populations.

The first cohort of Echidna Scholars included: Babita Rana of Power to the People in Nepal; Mary Otieno of Kenyatta University in Nairobi; and Pamhidzayi Mhongera of Blossoms Children Community and the Ministry of Social Services in Zimbabwe. The second cohort included: Urvashi Sahni of the Study Hall Foundation in Uttar Pradesh, India; Abraha Asfaw of Addis Ababa University; and Khadim Hussain of the GRACE

Association in Gilgit-Baltistan, Pakistan. Since returning home, each of them has scaled their work and implemented research-based projects building on the work they did while at Brookings.

Contributions from the 2013 Echidna Global Scholars

The working papers presented in this volume shed light on the often silent crises that affect girls' participation, education and learning. Importantly, the papers offer solutions and policy recommendations that are grounded in local knowledge and insights from the perspectives of the Echidna Scholars. They serve as critical contributions that build on achievements in gender parity in West Africa, Nigeria and Malawi, yet they hold governments and other actors accountable to a broader vision of gender equality. The papers presented here show the potential for policy solutions when local leaders' voices are heard at global level.

Judith-Ann Walker from Kano State, Northern Nigeria, studies child marriage in West Africa, drawing on decades of practice and research as the managing director of the Development Practice and Research Centre, an organization she cofounded which conducts research, implements programs, and builds the capacity of local community-based organizations. In her paper, Dr. Walker argues that at global level, girls' education is widely accepted as a leading strategy to end child marriage. Paradoxically, in West Africa, home to five of the 10 countries with the highest rates of child marriage, policy analysis and interviews with education bureaucrats shows that education policy routinely misses the opportunity to address the issue of child marriage. Her paper concludes with a call to action and recommendations for actors at global,

regional, national and subnational levels to leverage education as a way to end child marriage.

Adefunke Ekine of Oyo State, Nigeria is a lecturer at Tai Solarin Univerity of Education with two decades of experience in school administration and teaching. Her paper builds on her doctoral work on early childhood education and focuses on the need to engage girls in science from their early years when interests and attitudes are being formed and before cultural and gender biases about science are normalized. This is an issue of significance not only in Nigeria, where cultural biases hold that science is the domain of males and that girls are not as capable as males, and where women make up only 17 percent of all science researchers, but also in the broader region. Dr. Ekine makes a number of recommendations to engage girls in science, including using storytelling as a pedagogical method which goes beyond lecturing to more deeply engage students while promoting social and societal connections and building on oral tradition.

Madalo Samati of Malawi draws on two decades of experience as the director of programs for the Creative Centre for Community Mobilization (CRECCOM), a community-based organization in Malawi which was recognized by the country's Ministry of Education, Science and Technology as the most innovative organization in the promotion of girls' education in 2013. Reflecting on the Readmission Policy which was passed to allow girls to re-enter school after childbirth, Ms. Samati finds that a key factor influencing the impact of girls' education policies is the extent to which policies address cultural dimensions of gender inequality. Drawing on her experience in community mobilization, Ms. Samati finds that key people in communities;

including community-identified change agents, girls, mothers, and cultural leaders, offer great potential for addressing barriers to girls' education and learning. Ms. Samati proposes the launch of a new program, the Malawi Adolescent Girls' Learning Partnership (AGL) —an initiative that confronts the challenges to adolescent girls' education, with a special focus on addressing harmful social norms that prevent girls' participation in education and learning.

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STATISTICAL SNAPSHOT: EDUCATION AND GIRLS IN SUB-SAHARAN AFRICA, NIGERIA AND MALAWI

Key Stats	Country or Region					
	SSA		**Nigeria**		**Malawi**	
	Girls	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**
Pre-Primary						
Gross Enrollment Ratio (%)	17.0	17.0	13.0	13.0		
Primary						
Number of Out of School Children (%)	16,038,668	13,703,724	5,753,795	5,374,076	39,276*	117,887*
Gross Enrollment Ratio (%)	97.0	105.0	77.6	85.0	143.9	138.7
Goss Enrollment Ratio, GPI	0.93		0.91		1.04	
Net Enrollment Rate (%)	74.0	78.0	53.7	58.7	96.0	89.6
Survival Rate (to grade 5) (%)	70.0	71.0	89.6	83.6	56.8	58.6
Survival Rate to Last Grade of Primary (%) (Malawi: Standard 8, Nigeria: Grade 6)	60.0	64.0	68.9	77.4	47.7	50.6
Gross Primary Graduation Ratio (Nigeria) and Pass Rate (Malawi) (%)			66.0	75.3	61.8	74.9
Drop Out Rate (%)	35.7	40.3	17.0	22.7	46.4	47.9
Transition Rate (%)	66.0	71.0	73.8	74.2	71.8	74.8
Secondary						
Number of Out of School Children, Lower Secondary Age (%)	12,022,894	9,808,620			166,795	167,350
Lower Secondary Gross Enrollment Ratio (%)	73.0	77.0	43.7	48.8	40.7	43.8
Lower Secondary Gross Enrollment Ratio, GPI	0.84		0.89		0.93	
Gross Lower Secondary Graduation Ratio (%)			39.0	44.7	17.6	23.5
Survival Rate to Last Grade of Lower Secondary (%)					29.8	35.5
Upper Secondary Gross Enrollment Ratio	27.4	35.1	38.4	43.7	14.5	19.2
Upper Secondary Gross Enrollment Ratio, GPI	0.78				0.75	
Learning						
Not Learning (%)	45.0		58.3		52.1	44.6

Data sources: EFA Global Monitoring Report Statistical Tables 2012; UIS Data Centre; EMIS Education Statistics 2012 Malawi; Center for Universal Education Africa Learning Barometer (estimates percentage of children in primary school and not learning). Asterisk represents 2007 data. Detail available upon request.

Why Ending Child Marriage Needs to Be an Education Goal

The Case for Improved Coordination between Ending Child Marriage and Girls' Education Movements in West Africa

Judith-Ann Walker

Ending child marriage is critical for girls' rights, health, wellbeing and ability to survive into adulthood. Ending child marriage lessens the burden on health infrastructure and reduces the human footprint of resource poor countries. It reduces human suffering, recognizes human dignity and challenges gender based discrimination. Ultimately, ending child marriage frees untapped human resources and enables girls and women to more effectively contribute to global human development.[1]

Yet progress has been limited, particularly in West Africa, one of the world's child marriage hot spots. Five of the 10 countries with the highest rates of child marriage worldwide are in West Africa.[2] In 2011, of 14.9 million females in West Africa between the ages of 20 and 24 years, 6.2 million, or 42 percent, were married before the age of 18.[3] With 167 million people, Nigeria has the largest population of married girls in Africa: 39.4 percent of all females in Nigeria between the ages of 20 to 24 were married before the age of 18 by 2011.

One highly fruitful but not yet fully tapped strategy is to use girls' education as a mechanism for reducing child marriage. Enabling all girls to have primary education would reduce child marriage rates by a sixth.[4] For each additional year that a girl delays marriage, her likelihood of being literate increases by 5.6 percent and the prospect of her secondary school completion rises by 6.5 percent.[5] Increasing girls' education in West Africa is a particularly significant strategy given that more than 80 percent of out of school girls aged 10-14 have never attended school and are at risk of early marriage.[6] Indeed, there is a newly emerged global consensus on the importance of girls' education as a

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Through her position at the development Research and Projects Center, Dr. Walker has worked on projects with the Ford Foundation, the U.S. Agency for International Development in Nigeria, and the David and Lucille Packard Foundation, among others. She was the recipient of an Ashoka Innovators Fellowship in 2004. Dr. Walker holds a Ph.D. in development studies with a specialization in gender, education and industrial policy development as well as a M.A. in development studies, public policy and administration from the Institute of Social Studies at Erasmus University in Rotterdam in the Netherlands. Additionally, she holds a Post-Graduate Diploma in decentralization, rural planning and administration in the developing world from the Department of Development Co-operation in the Ministry of Foreign Affairs in Berlin, Germany, and a B.S. in government and public administration from the University of the West Indies in St. Augustine, Trinidad.

strategy to combat child marriage—but it has yet to be translated into action in West Africa.

This paper argues that in West Africa there is a fundamental policy disconnect between educationalists and actors who are working to end child marriage that must be bridged urgently. In support of this argument, the paper first examines the issue of child marriage and its global prevalence. Four approaches to girls' education in relation to ending child marriage are examined, as a basis for showing that although actors have different ways of approaching girls' education as a strategy to end child marriage, at the global level, there is an increasing recognition of the need for convergence between approaches. Despite this growing global consensus, in West Africa a policy disconnect exists that hinders effective action and as a result severely limits progress on girls' education and ending child marriage.

As evidence of the disconnect between the work of advocates against child marriage and educationalists in West Africa, this paper reviews dynamics at both the local and global levels. Interviews with West African bureaucrats shed light on key obstacles to tackling child marriage in this region. Also at the regional level, recent meetings and policy relevant convenings are reviewed to show the disjuncture between policy and action on girls' education and child marriage. At the global level, the paper reviews the education sector plans (ESPs) submitted by West African countries to the Global Partnership for Education (GPE). These present an opportunity to integrate girls' education and child marriage goals through a bottom up, country driven planning process that drives implementation. Yet this study finds that ESPs also fail to integrate the goals of ending child marriage within the ESP's girls' education components. The paper offers explanations for the missed opportunity of the separate paths of girls' education and ending child marriage taken in West Africa and concludes with recommendations and a call to action for actors at the global, regional, national and subnational levels.

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CHILD MARRIAGE PRACTICE AND PREVALENCE

What Is Child Marriage?

Child marriage is a formal marriage or an informal union before the age of 18 years, before a girl is psychologically, physically and physiologically prepared for marriage and childbearing.[7] It is a harmful traditional practice and a form of gender based violence driven by both demand and supply factors; shaped by cultural traditions, religious belief and poverty; and exacerbated by vulnerability. The consequences of child marriage are felt at both the individual and societal levels; while it has a negative impact on girls' health, social status and life chances, the practice likewise overburdens the social, public health and economic infrastructure of poor nations and threatens global notions of human security and sustainable development. It is therefore a "hidden crisis" that has begun to garner the attention of global actors in both developing and developed countries.

What Is the Global Prevalence of Child Marriage?

Globally, the prevalence of child marriage is on a downward trajectory, falling from 51 percent in 1955 to 40 percent in 1990.[8] However, the growth of the world's adolescent population from 400 million in 1950 to 1.2 billion in 2010 means that the sheer number of married girls or girls at risk of being married at an early age is greater than at any point in history. More than one third of the world's adolescent population resides in countries that are hot spots for child marriage, 338 million in South Asia and 94 million in West and Central Africa.[9] While data on child marriage rates vary according to sources, most researchers agree that the problem is worse than it appears as the practice is generally underreported.

Rates of child marriage are highest in rural areas, among poor households and in areas where a large proportion of girls are out of school. One-third of the world's female population is married before the age of 18, and 1 in 9 girls is married before age 15.[10] In 2011, an estimated 1 in 3 women between the ages of 20 and 24—nearly 70 million—had been married before the age of 18.[11] In developing countries, 9 out of 10 births to adolescent girls occur within a marriage or a union. Complications arising from pregnancy are the main cause of death among girls age 14 to 15 in the developing world.[12]

Nearly half the world's child brides live in Asia (excluding China), and South Asia is home to the highest number of child brides.[13] As of 2011, 46 percent of women age 20 to 24 had been married before the age of 18 in South Asia, and 18 percent married before age 15.[14] West and Central Africa have the second highest incidence of child marriage, at 41 percent,[15] and five West African countries (Niger, Guinea, Mali, Burkina Faso and Sierra Leone) are among the top 20 countries with the highest rates of child marriage. One West African nation—Niger—has the highest prevalence in the world, with 75 percent of its female population married before the age of 18 and the lowest median age of marriage (15.7 years).[16] While the rate of child marriage has declined in some countries with an otherwise high rate, such as Ethiopia and Nepal, its prevalence has nonetheless remained constant over the past decade—from 50 to 48 percent in rural areas, and 24 to 23 percent in urban areas.[17]

There are significant overlaps between child marriage and poverty, particularly where girls face limited economic and educational opportunities and, in turn, are highly dependent on

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male breadwinners. Girls in poor households are nearly twice as likely to marry before the age of 18 than girls from higher income households.[18] Dowry, bride wealth or bride price, and other practices surrounding marriage likewise create economic incentives for early marriage, as families may pay lower dowries when marrying off young daughters, and young brides can sometimes fetch higher bride prices from a groom's family.[19]

Linked with economic determinants is the role of social norms and regional or national instability in contributing to the prevalence of child marriage. In some countries, unequal gender norms may cause parents to place less value on a daughter, to view her as a drain on family resources, and to invest less in her education, skills, and potential—all of which reinforces the practice of marrying girls off at a young age.[20] Early marriage may also be seen as a safeguard against premarital sex, sexual harassment and violence. Regional and national instability and humanitarian crises—such as conflict, natural disasters and displacement—may make girls more vulnerable to early marriage.[21] In such situations, parents may marry off daughters to obtain some income, "to preserve resources by offloading economic responsibility for their girl," or to offer girls protection against sexual violence.[22]

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THE EMERGING GLOBAL CONSENSUS ON GIRLS' EDUCATION AS A STRATEGY TO END CHILD MARRIAGE

Four Historical Approaches to Girls' Education and Ending Child Marriage

Historically, there have been four approaches to girls' education related to the goal of ending child marriage. Two of these approaches originated in development thinking and two relate to human rights. The development approaches have stressed the many benefits of education and have noted that ending child marriage is an important positive subsequent effect—essentially, that is, an externality of development programs. As development programs have become more prescriptive, so too has the ability to design programs and policies in order to affect this externality. For the human rights perspective, child marriage must be addressed directly (not as an externality) through the education system and the education system must empower girls to transcend institutionalized discrimination and gender based violence in the social structure. Traditionally, these different orientations led to different approaches toward addressing the problem of child marriage. This paper argues that convergence at the global level between these approaches has recently emerged, providing a more coherent set of prescriptions for how girls' education can effectively combat child marriage. The four approaches are detailed in appendix 1 and briefly described below. Figure 1 shows the growing convergence between these approaches at the level of global discourse.

1. *The social benefits approach* has its origins in the girls' education and fertility literature of the 1950s. This approach presents a scientific case for how education contributes to a

FIGURE 1. APPROACHES TO END CHILD MARRIAGE THROUGH EDUCATION AND EMERGING POINTS OF CONVERGENCE

Legal approach
(laws on free & compulsory education)

Economic benefits & employment
(skills & learning for economic survival)

Global Discourse on Girls' Education as a Strategy to End Child Marriage
target girls at risk, respond to culture, focus on quality & learning, do M&E & research, provide nonformal & alternative education, reduce cost of education, teach skills linked to work & life, support enabling legal environment

Empowerment education
(curriculum which gives girls alternatives to marriage)

Social benefits & development
(expanded access & CCTs)

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delay in the age of first marriage, as a result of keeping girls in school. Education leads to many social benefits and contributes to development. Delayed fertility is one of these; delayed marriage is a related positive externality of education but not a primary focus. It is worth noting that as development approaches have become more sophisticated, interventions such as conditional cash transfers have been able to consider the impact of design elements on early marriage.

2. *The economic benefits approach* draws from the discourses on economic empowerment and technical education to demonstrate the benefits of nonformal education to the individual girl in terms of income generation alternatives to child marriage. The literature stems from early economic growth models in which the labor of men and women was valued as a key factor of production and child marriage was perceived as a barrier to females being able to participate in the labor force and to contribute to the growth of underdeveloped economies. As in the social benefits approach, ending child marriage may be seen as a positive externality of providing girls with a viable economic pathway.

3. *The education as empowerment approach* is rooted in feminists' critique of instrumental education approaches. Contributors to this approach recognize early marriage as a form of gender based violence and seek out alternatives to this practice. Recognizing the transformative nature of education, the gender responsive curriculum is the platform for developing this consciousness. In this approach, ending child marriage is an explicit goal.

4. *The legal approach* permeates the works of development agencies such as Action Aid,

PLAN and CARE. Where this approach focuses on child marriage, it focuses on the rights of girls to access free and compulsory education at secondary school level as an alternative to child marriage and also champions international and national laws on the legal age of marriage, birth registration and enforcement related to these laws. Ending child marriage is an explicit goal of this approach.

The New Global Consensus: Girls' Education as a Leading Strategy to End Child Marriage

How can child marriage be ended? This is a question that development thinkers have wrestled with since the postindependence era. After 60 years of debates and discussions, the past five years have witnessed clarity and convergence in the answer to this question as the global community now seems united in the view that girls' education offers the best strategy for ending child marriage. While the girls' education idea to end child marriage is not a new one, for the first time, think tanks, global development implementers and scholars are united in this recommendation.

While think tanks and girl centered global nongovernmental organizations (NGOs) have done much of the background thinking on this issue within the past five years, by 2012 multilateral development agencies more clearly recognized the new linkage between ending child marriage and promoting girls' education and mapped out tactical directions for the development community and countries with high rates of child marriage. The turning point for multilateral global leadership came with the UN Secretary General's message on child marriage and girls'

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education at the inaugural Day of the Girl Child in 2012:

> Education for girls is one of the best strategies for protecting girls against child marriage. When they are able to stay in school and avoid being married early, girls can build a foundation for a better life for themselves and their families. And if they have already been married young, access to education, economic opportunities and health services—including HIV prevention and sexual and reproductive health—will help enrich their lives and enhance their future.[23]

The theme of ending child marriage through girls' education continued to dominate press releases and calls to action by UN agencies for the 2013 International Day of the Girl Child.[24] This new perspective seems set to influence the future development agenda as early releases of the 2014–2015 Education for All *Global Monitoring Report* make the case for the linkage between girls' education and ending child marriage: "If all women had a primary education, child marriages and child mortality could fall by a sixth, and maternal deaths by two-thirds."[25]

The contemporary consensus that child marriage can be ended though girls' education is the result of thoughtful contributions by multiple agencies and actors at the global level. These include multilateral agencies, such as the World Bank and other various UN agencies; independent think tanks, scholars and research agencies, such as the Council for Foreign Relations and the International Center for Research on Women; bilateral agencies, such as the U.K. Department for International Develeopment (DfID)

and the U.S. Agency for International Development (USAID); and global NGOs and networks, such as the Population Council, World Vision, Oxfam, PLAN, CARE and Girls Not Brides. Getting girls at risk of child marriage into primary schools and keeping them in school through the secondary level is the point of departure and the minimum standard for contemporary voices concerned with ending child marriage through girls' education. The World Bank focuses on keeping girls in schools by reducing the cost of education through transfer payments, while the Population Council draws attention to alternative and nonformal learning environments that can also accommodate married adolescents.

Beyond access, however, agencies and thinkers shaping global policy in this area argue for critical attitude changes among opinion leaders toward girls' education as well as changes to the education system, the school environment and the pedagogy of the curriculum. For girls' education to end child marriage, they argue, community leaders must be educated through awareness creation programs. But even this is not enough, as the education system needs to be reformed by improving quality and recruiting more female teachers, and regulations must be put in place to give married adolescents a second chance at education. There is also general agreement among those currently working in the field that the school environment must be made safe and secure and that girls' sanitation and hygiene needs must be met. The pedagogy of the curriculum must be empowering for girls by providing life skills and marketable aptitudes that will give girls a viable alternative to early marriage.

The contemporary research examining the linkages between child marriage and girls' education

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draws on a range of epistemologies to come up with clear characteristics of what the education system and its environment must look like if child marriage is to be transcended. Put simply, girls at risk of child marriage must be targeted as a prevention strategy, the wider environment and the school system must be enabling to address the needs of girls at risk, and married adolescents and the content of the curriculum must be empowering through quality and relevance.

These core factors are picked up in new convergence literature constituting minimum standards of what the education system should look like if it is to end child marriage.[26] However, the convergence literature also picks up specific recommendations from each of the four groups of research on how girls' education can end child marriage. For example, the new buzz around common cores of teaching is drawn from the social benefits approach; recommendations on skills training derive from the economic benefits approach; the focus on family life education is drawn from the empowerment approach; and concerns about school safety and reforming regulations to accommodate married adolescents are drawn from the legal approach to education. The influence of these four paradigms is seen in the recent contribution of the UN Special Envoy for Global Education, Gordon Brown, which makes the case for girls' education as an antidote to child marriage by prescribing strategies drawn from all four approaches.

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THE DISCONNECT: HOW THE GLOBAL CONSENSUS FAILS TO TRANSLATE INTO POLICY AND PRACTICE IN WEST AFRICA

Despite the growing global consensus that girls' education is a key strategy to ending child marriage, and despite the emerging convergence in prescriptions for how this can be done, there remains a gap between those working to promote girls' education and those working to end child marriage in West Africa. Across the region, this message of the global consensus has not gotten through as both sets of policies have come to be implemented separately, with no deliberate points of overlap or synergy. The work continues in two separate spheres. The result is that neither education nor work on ending child marriage is maximally effective.

As discussed below, the evidence shows that while there has been progress in girls' education in West Africa, this progress has been narrowly shaped by a movement driven by the (1) the nonformal and mass literacy movements; (2) constitutional and education policy reform; (3) the regional policy guidelines of the African Union and the Economic Community of West African States (ECOWAS); and (4) state accession to global treaties and alignment. On a parallel track to these streams of girls' education initiatives there have been interventions to end child marriage focusing on the law and the minimum legal age of marriage on the one hand and reproductive health services for married adolescents on the other hand. This is discussed in more detail below.

In order to understand the nature of these now siloed approaches, this section of the paper reviews the status of child marriage and girls' education in the West African region along with evidence at the regional and global levels of the policy disconnect between efforts in these two areas.

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THE STATUS OF EFFORTS TO END CHILD MARRIAGE AND TO PROMOTE GIRLS' EDUCATION IN WEST AFRICA: DIFFERENT ACTORS, DIFFERENT MOVEMENTS AND A CLEAR POLICY DISCONNECT

Ending Child Marriage

Five of the 10 countries with the highest rates of child marriage worldwide are in West Africa.[27] The highest rates are in Niger and Chad with 76.6 percent and 71.5 percent respectively,[28] with Niger remaining among the top five countries for over 10 years (box 1).[29] Of 14.9 million females in West Africa between the ages of 20 and 24, 6.2 million, or 42 percent, were married before the age of 18 by 2011.[30] The pattern of child marriage in West Africa takes on the feature of very early marriage (table 1). More than half of married adolescents in Niger and Chad were married by 15 or earlier, and 18 percent of Nigeria's married adolescents in the age range of 20 to 24 were married at 15 or younger. Only Bangladesh and Ethiopia share a similar pattern of very early marriage, as the majority of girls are married between 15 to 18 years in Kenya, Uganda, Nepal and India.[31] Married girls in West Africa are more likely to be illiterate (box 2), live in rural areas, have restricted access to family planning and maternal health services, experience high rates of maternal mortality and morbidity, and live in polygamous unions with spousal age differences that are significantly greater than their counterparts in other countries.[32] Nine of the 10 countries with the highest proportion of married girls in the 15-to-19 age range who are living in polygamous unions are in West Africa.[33] Most of the subregions' 2.5 million population is Sunni Muslim, with long-established connections to the Arab world but with a distinctly African Islamic culture that values polygamy and cousin marriages.[34]

BOX 1. REGION WITH HIGHEST INCIDENCE OF CHILD MARRIAGE

"On a regional basis, West Africa has the highest incidence of child marriage with Mali, Chad and Niger recording rates in excess of 70%."

Source: Gordon Brown, *Out of Wedlock, Into School: Combating Child Marriage* (London: The Office of Gordon and Sarah Brown, 2012), 10.

TABLE: 1. MEDIAN AGE OF FIRST MARRIAGE IN WEST AFRICA

Country	Median Age	
	2000	**2011**
Benin	18.8	18.6
Burkina Faso	17.7	17.0
Cape Verde	24.6	22.6
Côte d'Ivoire	18.7	19.0
Chad	15.2	16.0
Gambia	17.8	17.1
Ghana	19.4	19.8
Guinea	16.2	17.0
Liberia	17.8	18.4
Mali	16.5	16.6
Mauritania	17.1	17.0
Niger	15.1	15.5
Nigeria	16.6	18.3
Senegal	15.0	17.0
Sierra Leone	15.0	17.0

Source: Ford Foundation study by the author, 2013.

BOX 2. HIGH RATES OF FEMALE ILLITERACY IN WEST AFRICA

"A total of 65 million young people and adults in West Africa—more than 40 percent of the population—are unable to read and write. Of these, 40 million are women; less than half of the women over the age of 15 in West Africa can read or write."

Source: African Network Campaign for Education For All (ANCEFA) et al., *From Closed Books to Open Doors – West Africa's Literacy Challenge* (ANCEFA et al, 2009), 1.

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State Fragility and Commitments

Commitments to ending child marriage for girls in West Africa have peaked recently within the global development community given the fragility of the subregion. Since 2000, one president has been assassinated; three governments have been in a civil war, one of which has continued for 14 years; and there have been 10 coups d'état and numerous nondemocratic attempts to extend the tenure of elected governments.[35] Emerging insights from humanitarian agencies suggest that the displacement, mobility and vulnerability triggered by state fragility increase the risks for girls and drive child marriage as parents seek to protect their daughters.[36] Side by side with this scenario are indicators of hope with democratic transition success stories in Senegal and Côte d'Ivoire, the emergence of Lagos as Africa's seventh largest economy, increasing inflows of Foreign Direct Investment and a 4.5 percent average annual real GDP growth in the sub region between 1995-2009.[37]

Critical Issues in Nigeria

Critical issues in Nigeria stem from the coexistence of high rates of child marriage, out-of-school girls and poor educational outcomes in the Northeast and Northwest zones, in a context of poverty and insecurity caused by an anti-Western education Islamic insurgency. Roughly 35 percent of girls age 6 to 11 are out of school in Northern Nigeria, most of whom have never attended schools and almost all of whom are unable to read despite completing primary school.[38] For the girls who are enrolled in schools in Northern states such as Kano, Bauchi and Sokoto, recent studies show that literacy and learning rates, as well as female teacher ratios, are the lowest in country.[39] The largest concentration of married girls is in the Northwest and Northeast of the country, where the median age of first marriage ranges between 15.2 and 15.6 years and 75 percent of girls are married before the age of 18. Overall, Nigeria has 10.5 million of its children who are primary school age out of school and contributes 1 in 5 of the world's out-of-school children in this age group, most of whom are at risk of child marriage.

The Ending Child Marriage Movement in West Africa

Historically, the movement to end child marriage in West Africa was less mainstream than girls' education initiatives and derived its impetus from projects that focused on law, awareness creation and public health. Even those organizations that were primarily concerned with girls' welfare in West Africa did not focus on child marriage. The Forum for African Women Educationists, DfID, USAID, Action Aid, Danish AID and the Norwegian Church have implemented numerous girls' education projects since the 1990s, on a small scale. They did not establish a monitoring and evaluation framework to track the impact of girls' education activities on child marriage rates.[40] Most projects only tracked process indicators such as completion, outcome indicators such as learning, or impact indicators such as change in attitude toward learning.

The movement to end child marriage in West Africa has run along a parallel track with girls' education programs but without convergence. Two important aspects of this movement have been linked to public health and to child rights. The catalyst for linking efforts to end child marriage with public health can be traced to the meeting of the 1984 UN NGO Working Group on Traditional Practices in Dakar, where the

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African NGOs present formed the Inter-African Committee on Traditional Practices affecting the Health of Women and Children (IAC). The IAC focused on eliminating female genital mutilation and early marriage through public education campaigns targeting traditional and religious leaders and advocacy for the introduction of laws. This was followed by the 2003 Technical Consultation on Early and Forced Marriages held in Burkina Faso, the resolutions from which were embodied in the Ouagadougou Declaration of 2003. The framing of child marriage in the Ouagadougou Declaration as "a public health concern" followed by a call "on Governments and International Development Agencies to recognize the efforts being made by civil society organizations . . . to respond to the challenges posed by child and forced marriage" led to a narrow public health response in the subregion in which NGOs and national governments were partners on obstetric fistula and adolescent reproductive health interventions.[41]

From the late 1990s, the United Nations Population Fund (UNFPA) and USAID were key agents on the public health track. Through partnerships with national governments and West African women's NGOs, these organizations provided services for married adolescents through UNFPA's National Country Strategies and through innovative USAID West Africa wide projects, such as AWARE I-RH (2003–8) and AWARE II-RH (2009–11). UNFPA also formed partnerships with Islamic opinion leaders across West Africa, with a particular focus on Senegal, Mali and Nigeria, supporting them to change attitudes and practices through public pronouncements and declarations to end harmful traditional practices such as child marriage and to affirm positive positions on reproductive health and girls'

education. Faith based initiatives by UNFPA, CEDPA and the USAID AWARE project culminated in the 2005 Abuja Declaration of the Network of African Islamic Faith-based Organizations.[42]

The catalyst for action against child marriage through laws was the accession of the Africa Charter on the Rights and Welfare of the Child in 2009. Article 21 of the charter set forth key legal provisions for 18 as the minimum legal age of marriage and laid down penalties for infraction of the law.[43] By recognizing 18 years as the minimum legal age of marriage and by establishing a Committee of Experts to monitor states compliance, the effect of the charter was to concentrate on ending child marriage efforts around domestication of minimum legal age laws across West Africa.

Girls' Education

There has been important progress in girls' education in West Africa. The gross enrollment gender parity index at primary level is highest in West Africa compared to Central, South, North and East Africa. The index increased from the lowest level in Africa of 0.75 in 1999 to 0.9, by 2010.[44] If this trend continues, West Africa is on target to achieve Millennium Development Goal (MDG) 2 by 2015. However, high dropout rates at primary and secondary levels coupled with low learning outcomes are significant counter-performance issues in West African girls' education.

By the second half of the decade of the 2000s, all West African nations had a girls' education policy framework in place, education was generally compulsory for ages 6 to 11, and gender parity at the primary school level had been largely attained based on gross enrollment ratios. However, it is important to note that these

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successes appeared to be restricted, unsustainable and lacking in political commitment. Indeed, as table 2 shows, government expenditures on education remained below global averages and global recommended standards.[45] Thus, by the time the second decade on education was launched in 2006, it was noted in the opening address at the Gabon Conference in West Africa that "in spite of high ideals and intensions, the first Decade of Education for Africa was less than successful. Africa entered the new millennium with an education deficit at every level, formal and non-formal."[46] Most recently, the director of education, culture, science and technology of ECOWAS noted that most countries in West Africa are off track from meeting MDGs 2 and 3.

Increasing Development Assistance

As official development assistance for the education sector falls worldwide, the global spotlight on girls' education in West Africa seems to have contributed to increased funding to this subregion.[47] From being third lowest recipient of total aid to the education sector in West Africa in 2002, with inflows of $35 million by 2010, Nigeria moved to the second highest recipient of total aid to the education sector with inflows of $165 million.[48] This trend is likely to continue with the new commitment of $500 million announced during the September 2013 visit of Gordon Brown to Nigeria. Half this sum is being made available from the Federal Government of Nigeria. A total of $200 million is to be contributed by USAID and the GPE. A new stream of funding from the European Union is expected to complete the $500 million funding pledge. New funding has also been committed by the World Bank, DfID and foundations such as the MacArthur Foundation and Ford Foundation, as well as international

development partners such as the Population Council. This funding is critical given the dire need for support for the children of West Africa.

TABLE 2. PERCENTAGE SHARE OF EDUCATION IN WEST AFRICAN GROSS DOMESTIC PRODUCT

Country	1999	2010
Benin	3.2	4.5
Burkina Faso	1.5	-
Chad	2.4	2.8
Côte d'Ivoire	5.0	4.6
Gambia	6.0	5.0
Ghana	3.1	5.5
Liberia	-	2.8
Mali	2.2	4.5
Niger	3.1	3.8
Nigeria	0.9	-
Senegal	3.5	5.6
Sierra Leone	3.5	4.3

Source: World Bank, World Development Report (New York: Oxford University Press, various years).

Legal and Policy Framework

Of the West African countries, Nigeria has the most developed policy and legal framework, with the greatest potential to catalyze the uptake of girls' education in the region. Between the 1970s and 2013, approximately 52 pieces of legislation and policies were developed with implications for girls' education in Nigeria. The average for other countries in the subregion was between 22 to 34.[49] Strategies to facilitate girls' education were frontline objectives but were also embedded within policies on violence against women, national gender policy, and policies on trafficking in persons and irregular migration, school hygiene and sanitation. A robust legal framework also exists, starting with Chapter II, Article 18, of the May 1999 Constitution, which provided for free, compulsory and universal primary education and free secondary education and

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including the Child Rights Act of 2003. Despite these instruments, Nigeria is the only country in West Africa where female secondary school enrollment rates have fallen over the period 1999 to 2012. Nigeria also has the largest number of out-of-school children in the region. Over 90 percent of out-of-school girls between the ages of 10 and 14 in Nigeria have never attended school.[50] Graphs 1 and 2 below similarly show little change in female enrollment at secondary school level and high female dropout rates in countries such as Chad, Liberia and Mauritania.

The Girls' Education Movement in West Africa

It is important to trace the factors that have driven progress in girls' education, and also to understand why girls' education has gained attention and yet the sector still has not focused on ending child marriage. The girls' education movement can be traced to the 1960s, when it was characterized by multiple stakeholders within government and civil society concerned with the education of women and girls as part of a mass literacy movement. On the other hand, as described above, the movement to end child marriage can be traced back to the 1980s and was largely driven by women's civil society groups through legal and public health platforms.
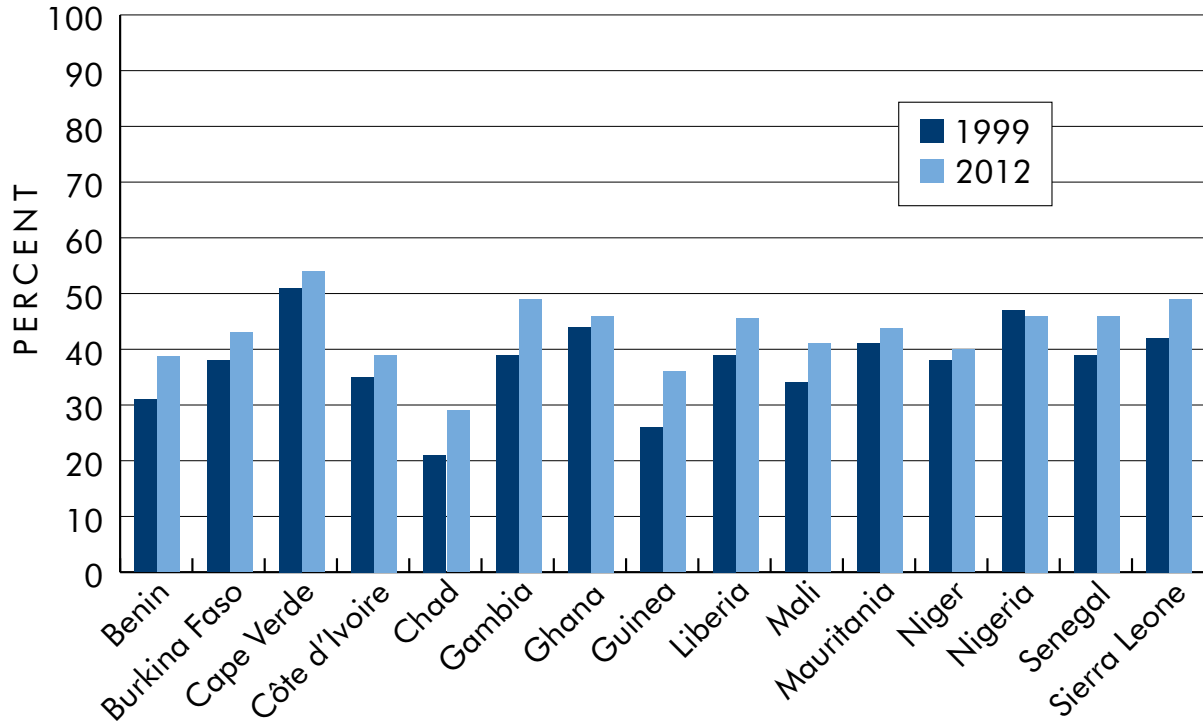
Four factors have shaped the direction and intensity of the girls' education movement in West Africa since the wave of independence in the 1960s which has contributed to gains in girls' education such as those shown in graphs 1 and 2.

1. *Nonformal education and mass literacy movements* in the postindependence era served as a vehicle for the newly emerging nation states to address the problem of women's and girls' education. While the early expansion of formal education for girls for countries such as Ghana was noticeable in the subregion,[51] education for girls was associated with functional literacy and nonformal skills building to support the new agrarian economy.[52] As governments struggled to meet the school-place deficit, education for girls and women came to be increasingly delivered through community schools and the mass media. The successes of the nonformal literacy movement for girls in the 1960s and 1970s constituted a platform upon which UNICEF built its flagship nonformal literacy projects in Burkina Faso, Niger, Nigeria and Mauritania under the African Girls' Education Initiative launched in 1994.[53] In francophone West Africa, the nonformal education movement also provided a platform for a populist return to local languages, whereby the Ministere de l'Education Nationale in Guinea trained girls and women to contribute to a new agrarian driven socialist economy.

2. *Constitutional and education policy reform* in the 1990s saw a wave of new legislation that enshrined the right to education in national constitutions and the adoption of new affirmative action policies for girls in education. Even in Mali, one of the most religiously conservative countries in West Africa, Article 26 of Law 99-046 of December 28, 1999, the Education Counseling Law, stipulates that the right to education creates an obligation for parents to enroll their children in schools and to keep them there at least until the end of basic education, a period of nine years.[54]

3. *Regional policy* was set by the African Union and ECOWAS,[55] aligned with global policy, and provided a framework for girls'

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Graph 1. Secondary School Enrollment for Females

Legend: 1999 (dark blue), 2012 (light blue)

Y-axis: PERCENT (0–100)

X-axis: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Chad, Gambia, Ghana, Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone

Sources: UNESCO, *EFA Global Monitoring Report 2012*, tables 6 and 7; http://www.epdc.org/; http://data.un.org/DataMartInfo.aspx; http://wdi.worldbank.org/table/2.11; http://www.quandl.com/WORLDBANK-World-Bank/CIV_SE_SEC_ENRR; http://www.measuredhs.com/.

Graph 2. Female Dropouts, All Grades
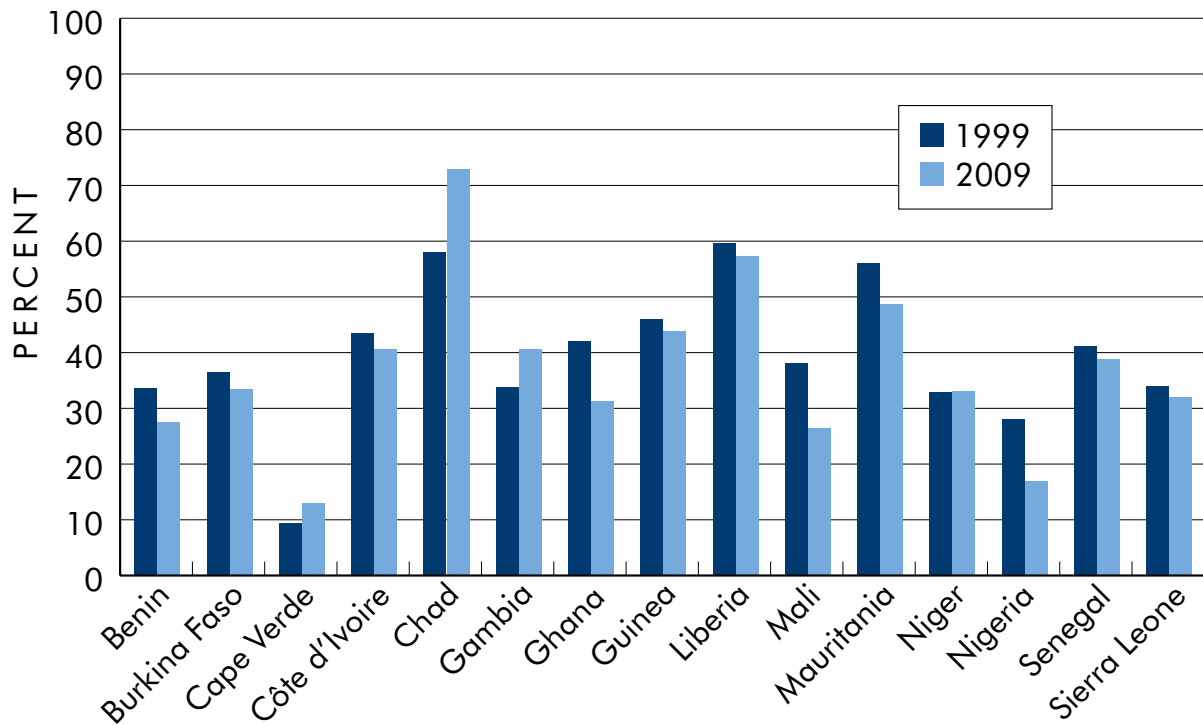
Legend: 1999 (dark blue), 2009 (light blue)

Y-axis: PERCENT (0–100)

X-axis: Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Chad, Gambia, Ghana, Guinea, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone

Sources: UNESCO, *EFA Global Monitoring Report 2012*, tables 6 and 7; http://www.epdc.org/; http://data.un.org/DataMartInfo.aspx; http://wdi.worldbank.org/table/2.11; http://www.quandl.com/WORLDBANK-World-Bank/CIV_SE_SEC_ENRR; http://www.measuredhs.com/.

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education. ECOWAS was established in 1975 and the African Union was established in 1999. The major thrust of the focus on girls' education revolved around increasing enrollment and aligning with global gender parity goals and on expanding access to technical and vocational education. By the 1990s, sexuality education for both boys and girls was incorporated into the regional guidelines in response to the HIV/AIDS pandemic.

4. *Nation states' accession to global treaties and alignment.* Girls' education programs in West Africa were shaped by global forums and conventions, including the 1990 meetings in Jomtien, Thailand, that catalyzed new statements of commitment to girls' education across West Africa under the policy framework of the First Decade for Education in Africa (1996–2006) and the associated Decade for Literacy and Adult Education in Africa. The UNICEF-supported African Girls' Education Initiative, which commenced in 1994, shaped a decade of girls' education interventions in West Africa. At the turn of the new millennium, three events gave greater momentum to girls' education efforts in the subregion. The first was the seminar on the follow-up to the Decade of Education in West Africa, which took place in Banjul, Gambia, in January 2000; and the second was the World Education Forum in Dakar in April 2000. The third was the launch of the MDGs in September 2000, which catalyzed the Second Decade of Education for Africa Plan (2006–15). The first conference of ECOWAS education ministers was held in Dakar in September 2002 to harmonize national education policies with the New Partnership for African Development (NEPAD) and the new global EFA Movement. By 2004, a second meeting of ECOWAS ministers of education was held with support from UNESCO and with a focus on expanding girls' education in the subregion.

Clearly efforts toward the promotion of girls' education in West Africa have developed on a parallel tack to those concerned with ending child marriage and have not intersected to any great measure. Further evidence and reasons for this disconnect are discussed in the next section.

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RECENT EVIDENCE OF THE DISCONNECT BETWEEN EDUCATION AND ENDING CHILD MARRIAGE IN WEST AFRICA

This section presents three pieces of evidence to make the case that there is a policy disconnect between the growing global consensus on the importance of girls' education as a leading strategy to combat child marriage and how policy is implemented in West Africa. At the regional level, findings from interviews with education bureaucrats and an analysis of recent meetings are presented to show the disjuncture in thinking between educationalists and child marriage advocates. Regarding global policy that affects the region, education sector plans submitted to the Global Partnership for Education (GPE) are analyzed, showing that a key opportunity to link girls' education with ending child marriage is being missed by the global and regional communities.

Education Policymakers in West Africa: Ending Child Marriage Is Not an Education Goal

Why has the message that girls' education can end child marriage not gotten through to West African policymakers, who are no doubt aware of the subregion's characterization as a hot spot for child marriage and its large population of out-of-school girls? This question was put to key informants across West Africa during two years of fieldwork in a study funded by the Ford Foundation. Responses can be grouped into six broad categories:

1. *Child marriage does not need a special public policy solution*. This was the first and most commonly articulated response. Respondents in both anglophone and francophone West Africa explained that child marriage was hidden, accepted and considered to be a natural right of passage within society and within government bureaucracies with the responsibility for education planning.

2. *Ending child marriage is not an education goal.* This reason was articulated by education bureaucrats across the subregion. For almost all education planners and politicians, ending child marriage was seen as a goal for child rights advocates, the groups opposing violence against women and the proponents of adolescent reproductive health (box 3). Bureaucrats in the departments of solidarity and gender promotion in the ministries of family and children across francophone countries expressed fear about having their programs linked with the problem of *les mutilations génitales féminines*, *"excision" or l'excision* (female genital cutting), while in anglophone countries bureaucrats working on women's affairs were weary of becoming too closely associated with reproductive health obstetric fistula projects, which they saw to be the main focus on child marriage efforts. In both cases, governments implement these programs without engaging ministries of education in their community awareness, political mobilization and specialized repair surgeries projects.

> **Box 3. Ending Early Marriage is Not an Education Issue**
>
> "Early marriage is a complex issue; for now it is likened to themes on violence which is easier to get action from the gender people."
>
> —an education official, Mali, 2012

3. *This is a local problem*. Even in countries such as Niger, with its high rates of child marriage throughout the country, planners questioned

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why a problem that was specific to particular regions should dominate education planning and find its way into national education plans. Both civil servants and NGO leaders viewed child marriage as a rural or location specific problem common in areas such as Kayes, Koulikoro and Sikasso in Mali or the Northern states in Nigeria. Civil servants who raised this problem were quick to point out that the politics of resource allocation in their countries would make it difficult to concentrate proportional resources in regions to address high child marriage rates.

4. *Measurement is complicated*. Ministry of Education officials also explained that they were sure that girls' education projects contributed to reducing high rates of child marriage, but they were quick to explain that they did not and could not measure such changes. Some respondents felt that while the Ministry of Education can implement programs, it was up to the Ministry of Health to measure changes. Other respondents from the Ministry of Education inferred linkages without evidence (box 4).

> **Box 4. Drawing Conclusions Without Evidence**
>
> "The girl child support program is not directly linked with early marriage but it helps improve girls' retention rate up to Junior Secondary school level."
>
> —Executive secretary, Basic Education
> Commission, Ministry of Education, Sierra Leone

5. *This should be funded by health*. Ministry of Education officials recalled the bureaucratic minefield of responding to the HIV/AIDS pandemic in the 1990s, when they had funds deducted to source activities that they viewed as belonging to the health sector. Reluctant to repeat such an experience, a senior civil servant asked "so if we deal with child mar-

riage through education, does that mean that health will give some of their budget to education?"[56] NGOs representatives who were interviewed on this question linked the issue of bureaucratic competition over budgetary allocations to low capacity for "real" gender planning and analysis in departments.

6. *Lack of civil society partners*. A sixth reason was put forward not by education bureaucrats but rather by delegates at a Ford Foundation West African regional meeting. Delegates noted that there are few subregional organizations conducting civil society action and advocacy on child marriage issues, especially in comparison with education organizations, and so the interaction and education of government officials is limited.[57]

These responses demonstrate the difficulty of joining up two programming areas that many believe exist in different and often competing policy domains. Responses suggest an urgent need to convince stakeholders concerned with big questions of girls' education in development to focus on the implications of child marriage. However, the fear of lower line implementers that girls' education can be "contaminated" by child marriage is a real one to which one must respond. This suggests that education policy implementers at subnational levels in particular can be kept within their comfort zone, where they take a technical approach to girls' education policies. However, it is critical that they are pushed to implement smarter girls' education programs. Substate implementation can focus on areas where there is synergy between the work of ending child marriage and girls' education, such as promoting access, safe spaces, life skills, and learning for vulnerable populations.

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Further Regional Evidence of Disconnect in West Africa: Recent Meetings

As West Africa contributes to the post 2015 agenda-setting discussions, important regional meetings have been convened in 2013 to coordinate country level actions on girls' education as well as on adolescent reproductive health and child marriage. These initiatives are taking place separately with no coordination between the objectives, agencies and actors involved in improving girls' education outcomes and the advocates struggling to reduce the high rates of child marriage in the subregion.

Evidence of the disconnect between girls' education and efforts to end child marriage can be seen from two recent high-level regional meetings setting the agenda on girls' education and child marriage for West African countries. The first is the ECOWAS Commission's high level consultation of experts on the education of girls, which took place in Banjul, Gambia, on April 22, 2013. The delegates at this forum discussed West Africa's poor indices for girls' education within the framework of the MDGs, EFA and the African Union Plan of Action for the Second Decade of Education for Africa (2006–15), and they fashioned new directions for all 15 countries to accelerate actions toward 2015. These actions call for a special budget line for girls' education, strengthening existing education management information systems, the implementation of legal frameworks that guarantee the rights of girls and laws on free compulsory education, textbooks, fees and uniforms. No mention was made of ending child marriage and no indicators were outlined to trace the impact of any of these actions on child marriage rates.

The second regional meeting of significance in 2013 was the African Regional Conference on Population and Development Beyond 2014. Ending child marriage was a central focus of this forum of public health agencies and advocates. In his opening statement to this meeting, the executive director of the UNFPA set the tone by noting that

> It is unacceptable that in the 21st century girls are still subject to harmful practices, such as female genital mutilation and child marriage, which violate their rights to health, physical and mental integrity and life. Of the 10 countries worldwide with the highest rates of child marriage, 8 of them are in Africa. . . .This must stop.[58]

This meeting ended with a call to action by delegates from ministries of health, population and gender, representatives of civil society organizations, UN agencies, international organizations and Pan-African Parliament around the strategies of adolescent sexual and reproductive health and rights. There were no invitees from ministries of education, and ending child marriage through girls' education did not emerge among the strategies in the call for action.

Global Evidence of Policy Disconnect in West Africa: Education Sector Plans as Missed Opportunities for Synergy and Change

The global community has a role to play in creating incentives to help link girls' education and efforts to end child marriage. GPE provides an opportunity for states to harmonize education plans and set new objectives in response to global guidelines while being driven by needs and demands from the country level.

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Each West African country has produced an education sector plan (ESP) which elaborates country priorities in education for all demographic groups—girls, boys and adult females and males. ESPs have the potential to promote synergy between efforts to promote girls' education and ending child marriage. Yet analysis of these plans confirm the disjuncture between global policy discourse and state level action and reveal a missed opportunity to bridge that divide.

GPE does not direct the country planning process, but it does provide guidelines that shape the methodology, consultative process and format of the plans. Current guidelines do not steer national governments to mainstream gender into the analysis and processes of the plan. The present framework does provide a broad template for national governments to consider gender based barriers to girls' education and to reference existing gender policies. GPE is now working with the UN Girls' Education Initiative to revamp this process so that girls' education concerns are addressed in planning, policy and programming. Yet the current absence of gender in the planning methodology results in girls' education being treated without appropriate context or tools in many cases. However, since the ESPs are expected to come out of a country driven process, it is reasonable to expect that local planners will spot the opportunity for synergies and build in girls' education components designed to reduce high rates of child marriage.

As a means of examining the way that girls' education policy and programming interacts with policy and programming related to child marriage, this author reviewed ESPs of 13 African countries.[59] The findings were stark: Governments are not leveraging girls' education to work to end child marriage, despite clear synergies. Not one of 13 ESPs makes a specific policy statement about ending child marriage. Only the ESPs for Senegal and Benin note child marriage as a barrier to girls' education, yet these plans include no indicators to track the impact of girls' education on child marriage. These findings are summarized in table 3.

Girls' empowerment, which is a rights based approach that is clearly linked to child marriage, features in a number of plans but still is not clearly linked to measurable indicators to end child marriage. In the nine cases where girls' empowerment components formed the basis of girls' education activities, no indicator was developed to track the impact of these initiatives on child marriage; nor did any of these nine plans build in monitoring links with public health or gender rights advocates. This is particularly noticeable in the case of Liberia, which had a broader consultative framework at the plan development stage. Where girls' empowerment activities such as family life education were incorporated into plans, the potential to make an impact on child marriage rates was adversely affected by the fact that girls at risk of child marriage were not targeted specifically, because this was not a lens that factored into planning. While more than half the plans set out to target girls at risk in hot spot regions through interventions to increase enrollment and reduce dropout rates, none sought to measure the impact of these initiatives on local rates of child marriage. Overall, ESPs were aligned with the gender equality norms and to varying extents incorporated activities that targeted girls; but these were not coordinated with ending child marriage goals.

ESPs do focus on girls' education overall, a fact that may be encouraged by GPE's strate-

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gic focus on girls' education. In all 13 countries, governments' focus on girls' education aimed to address problems of gender parity in enrollment at primary and secondary school levels and laid out plans to stem high dropout rates. Still, there were some deficiencies. The plans of Chad, Niger and Nigeria were low on girls' education components or failed to mention them at all.

The lack of focus on ending child marriage in the ESPs for West Africa signals the need for urgent action to refocus the planning process so that the problems and needs of girls are addressed and that the ESPs thus become aligned with the new global consensus on the synergies between girls' education and child marriage. National governments are accountable for the dual problems of large numbers of out-of-school girls and high rates of child marriage in their countries.

TABLE 3. SUMMARY REVIEW OF EDUCATION SECTOR PLANS OF WEST AFRICAN COUNTRIES

Country	Timeline	Identification of child marriage as a barrier to girls' education	Inclusion of goals or objectives related to ending child marriage	Inclusion of M&E indicators to track impact of education on child marriage	Targeting of regions because of high rates of out of school girls	Targeting of regions because of high rates of child marriage	Expanded access at primary & secondary	Use of Gender equity indicators and empowerment (S,M,W)*
Benin	2013-2015	✓	X	X	✓	X	✓	S
B/Faso	2012-2021	X	X	X	X	X	✓	S
Chad	2013-2015	X	X	X	X	X	✓	W
Coted' Ivoire	2012-2014	X	X	X	✓	X	✓	M
Gambia	2006-2015	X	X	X	X	X	✓	S
Ghana	2010-2020	X	X	X	✓	X	✓	S
Liberia	2010-2020	X	X	X	X	X	✓	M
Mali	2010-2012	X	X	X	X	X	✓	M
Mauritania	2011-2020	X	X	X	X	X	✓	M
Niger	2011-2013	X	X	X	X	X	✓	S
Nigeria	2011-2015	X	X	X	X	X	✓	W
Senegal	2013-2025	✓	X	X	X	X	✓	M
S/Leone	2007-2015	X	X	X	✓	X	✓	S

*Key: S-Strong (gender indicators - positive discrimination in favor of girls; gender violence, family life education and civic education in curriculum; health, sanitation and hygiene for girls in school environment; improved female school teacher ratios; and community mobilization for girls' education)

M – Medium (positive discrimination in favor of girls and 2 of the other gender indicators)

W – Weak (any 2 of the gender indicators but no positive discrimination in favor of girls)

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RECOMMENDATIONS FOR ACTION

Acall to action is needed for global, regional, national and subnational actors to build on the understanding that girls' education is a critical strategy to end child marriage. A recent survey of 41 hotspot countries for child marriage globally pointed to the continuing reluctance of national governments to commit to ending child marriage.[60] This section provides recommendations for each set of actors toward a policy consensus at the implementation level.

Global Actions

The inclusion of gender in the GPE methodology for ESPs is a significant action that can lead West African countries with high rates of child marriage to align girls' education programs with such goals. Strategic objective II of the GPE 2012–15 Strategic Plan addresses this gap through a process supported by the Technical Reference Group on Gender and Education coordinated by the United Nations Girls' Education Initiative (UN-GEI). These recommendations to GPE are framed against the background of the current gender driven initiatives under strategic objective II:

- Implement quick-win measures such as gender audits and midterm reviews of ESPs in hot spot countries with a specific focus on child marriage.

- Reform the grantmaking guidelines and provide tools to encourage states to expand the consultative process to include a wider cross-section of government agencies and NGOs concerned with the problems adolescents face from a gender perspective.

- Reform the grantmaking framework to encourage nation states to recognize and respond to regional differences, given that gender issues can be more acute in local areas.

- Reform the guidelines of the ESP process to encourage nation states to increasingly focus on girls' education and child marriage.

- Require applicant countries to incorporate analysis of gender based barriers to girls' education, and how education can address problems faced by girls.

Global agencies that are behind the message that girls' education can end child marriage must do more than recommend strategies to the national government; they must give operational directions to guide the actions of nations and planners. The following are proposed:

- Global leaders on girls' education agencies must reach out to other global actors committed to ending child marriage to develop a road map and to provide tools and program design templates to maximize the synergies between adolescent reproductive health and rights and girls' education policies. This is a particularly important follow-up role for the UN special envoy on global education, Gordon Brown who can engage the so-called H8—the World Health Organization; UNICEF; UNFPA; UNAIDS; the Global Fund to Fight AIDS, Tuberculosis and Malaria; GAVI; the Bill & Melinda Gates Foundation; and the World Bank.

- The leadership taken by the ambassadors of Sierra Leone and Chad to be among 107 delegates to move the first ever UN resolution on child, early and forced marriage at the Human Rights Council must be leveraged throughout West Africa. The ECOWAS Permanent Observer and the African Union's

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Permanent Observer Mission at the United Nations must communicate the significance of this resolution down through regional organs such as the African Committee on the Rights and Welfare of the Child.

- The Office of the High Commission for Human Rights, which is currently developing the report on child marriage for the Human Rights Council in June 2014, must extend its call for submissions to girls' education program implementers to ensure that the human rights challenges and possibilities in girls' education are addressed.

- Global agencies concerned with reproductive health of adolescents such as UNFPA and the World Bank must ensure that new adolescent reproductive health projects rolled out in child marriage hot spot countries such as Niger[61] are designed with programmatic levers to ensure girls' education activities aim to delay child marriage. The fact that UNFPA is guided by International Conference on Population and Development provisions to "empower adolescents to continue their education and lead productive and satisfying lives"[62] creates an opportunity to develop synergies with girls' education interventions while at the same time keeping within its reproductive health mandate.[63]

- The World Health Organization which rose from its 65 World Health Assembly with a strong resolution to end child marriage is currently convening meetings and must ensure that global girls' education players are invited to the table as strategies and indicators are being developed.

- The Girls Not Brides global network with civil society branches throughout child marriage

hotspot countries must do more to harmonize the actions of country level initiatives around the clear message that girls' education provides the most strategic opportunity to lead the fight against child marriage.

Regional and subregional actions

Regional and subregional actors have a leading role to play in bringing attention to the issue of child marriage in West Africa, building capacity of regional actors, and maintaining progress on child marriage.

- The African Committee of Experts on the Rights and Welfare of the Child (ACERWC), the treaty body that monitors the implementation of the African Charter on the Rights and Welfare of the Child (ACRWC), must be supported to convene an immediate dialogue. The ACERWC must also be supported to carry out awareness creation activities and to commission child marriage country reports in keeping with the Committee's 2013 Day of the African Child theme of ending harmful traditional practices.

- Regional public service capacity building agencies which have been working with weak and outdated gender planning paradigms must be supported to update tools and methodologies on integrated gender planning for education planners in West Africa. The Centre for Girls' and Women's Education in Africa (CIEFFA) in Ouagadougou and the African Training and Research Centre in Administration for Development (CAFRAD) can support these activities.

- The West African Civil Society Forum (WACSF) was supported by the Ford Foundation in 2013 to roll out a new project to

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end child marriage with strong advocacy components. WACSF is strategically placed to formulate strong evidence based advocacy messages around the effectiveness of the girls' education strategy. The WACSF must be strengthened to sharpen its focus around the potential of girls' education and to develop materials in French, English and Portuguese and train NGOs throughout the subregion on this message.

- The African Child Policy Forum, an independent web-based platform supported by development partners such as PLAN, the Oak Foundation and Investing in Children and their Societies (ICS) can be energized to introduce a page profiling countries' initiatives to end child marriage through targeted girls' education projects and comparing changes in rates of child marriage in the subregion.

- Think tanks with regional reach, such as Women in Law and Development, Trust Africa, and the Forum for African Women Educationists, should establish a learning community to provide the evidence and templates for political decision makers and bureaucrats. Several international development partners[64] are implementing girls' education projects across West Africa and a multitude of government agencies[65] are also working to support girls' education. A comprehensive country by country review should be carried out of girls' education projects to examine the impact on child marriage rates and to compare implementation strategies and mechanisms.

- The gender mainstreaming and peer review mechanisms of the New Partnership for Africa's Development (NEPAD) provide an opportunity for countries in the subregion to learn from each other about best practices in accountable and participatory planning for girls' education. Such a platform can document Liberia's strength in multisector consultation during the ESP design phase and the Senegalese government's *faire-faire* (making things happen) strategy based on strong partnerships with NGOs and community schools to meet gender parity targets in basic education. Exchange visits can evolve from this platform during the peer review stage.

- Countries of the West African subregion must move forward to develop gender focused security and education programs for internally displaced girls under the protection provisions of the Convention for the Protection and Assistance of Internally Displaced Persons in Africa (the Kampala Convention). More awareness must be raised by the NGO Forum in the African Commission on Human and Peoples' Rights on state obligations to internally displaced girls and their families under the Convention.

- The African Commission on Human and Peoples' Rights and the NGO Forum in the African Commission on Human and Peoples' Rights must use all available instruments to compel national governments to implement policies in line with the October 2013 Joint Statement to Governments on Innovation in Girls' Education.[66]

National actions

National governments must work around bureaucratic politics and regional tensions to bring girls' education policies in line with the new global strategy in which education is central.

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- At country level women's leadership for girls' education must be developed to champion increased expenditure, school to work policies for girls, nonformal alternative education models for married girls and gender responsiveness within education bureaucracies at all levels. Leadership development programs targeting women in West Africa such as the new UN Ele Wa program must develop the leadership skills of girls' education activists and include them among cohorts of reproductive health leaders to develop holistic gender responsive models to end child marriage.

- Strategic government think tanks must bring together multisectoral agencies and take the lead in a policy dialogue with line Ministries and parastatals with responsibility for education, public health, protection and justice for children as well as NGOs, associations of teachers, social workers and counselors and international development partners. For example, the Senegal Coalition des Organisations en Synergie pour la Défense de l'Éducation (COSYDEP) can be a strategic partner in this process. In Nigeria, the apex Federal Government think tank, the National Institute for Policy and Strategic Studies (NIPSS), can lead the process.

- Child marriage requires presidential level leadership at national level in each of the countries of West Africa. As has been demonstrated in this paper, child marriage is a cross-sector issue that fails to be addressed by education officials because of budgetary constraints and other sectoral issues. Top level leadership, including from the Minister of Finance so that cross-sector solutions can be developed, is needed to develop innovative solutions to address this crisis. A presidential

roundtable initiated by one of the West African leaders could bring much needed attention to this issue among others.

- Impact investors such as the Open Society Foundations with a focus on rights must support civil society organizations across the subregion to launch a new generation of education rights awareness building interventions and judicial actions against states which have refused to enforced girls' rights to education laws enshrined in constitutions and Acts of Parliament.

- The community of girls' education researchers and evaluators in West African countries has an obligation to discover, document and produce policy briefs on success stories where education has provided alternatives to child marriage and improved the life chances of girls. In 2012 the Norwegian Development Corporation funded the Forum for African Women Educationists to support female researchers in the region to carry out such studies. This endeavor must be continued and extended to regional research agencies such as the Council for the Development of Social Science Research in Africa in Dakar, Senegal.

Subnational actions

While religious and cultural norms are significant barriers to girls' education in West Africa; poverty, poor quality education as well as knowledge that both male and female youths are unlikely to find jobs are the biggest disincentives for parents to invest in education. Against this background child marriage is rationalized in traditional and conservative Islamic communities of the subregion. In this context the following is recommended:

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- Local NGOs and implementing partners such as Mercy Corps and Action Aid implementing girls' education programs in communities with high rates of child marriage across West Africa must revisit project monitoring and evaluation frameworks to bring out clear evidence of program impact on ending child marriage. This evidence must be presented as policy briefs showing the benefits of such interventions to the girl, the family and community. Local administrators must be encouraged to take successful interventions to scale and the path to scale must be supported through capacity building programs to enable planners to develop youth employment policies that identify marketable skills sets and employment possibilities for female youth in the formal and informal sectors.

- UNICEF, World Vision and Oxfam must support a new generation of in-depth studies which examine the impact of the different drivers of displacement on child marriage in the West African region. These studies must also identify coping mechanisms, resilience and opportunities for the education of displaced girls within countries and across the region as populations are increasingly crossing borders due to climate change, insurgency, political crisis and poverty.

- Local NGOs with an intermediary role at global and local levels must do more to create a sustainable platform for local groups to tell their stories, leapfrog into the global arena, access funding, expand their activities and shape the current and post 2015 agenda on how girls' education can end child marriage.

CONCLUSION

Ending child marriage through girls' education is an important strategy that global actors propose to hot spot countries such as those of West Africa. As pragmatic as this strategy may appear, bureaucratic politics and the absence of guidance on how to roll out girls' education policies for maximum effect present barriers to policymakers' ability to implement the targeted and integrated interventions that have been suggested by the global message. It is now the time to go beyond the message that girls' education is an effective strategy and to take the initiative to develop the tools and templates to implement this recommendation.

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APPENDIX 1: DECONSTRUCTING GIRLS' EDUCATION APPROACHES AND IMPLICATIONS FOR CHILD MARRIAGE

The following sections show how thinking on the relationship between child marriage and girls' education has differentiated and developed, starting from the decade of the 1960s. Four main approaches to girls' education have different implications for efforts to end child marriage: the social benefits approach, the economic benefits approach, the empowerment education approach and the legal approach. The first two approaches can be broadly characterized as development approaches to girls' education, and the latter two as human rights based approaches. It is critical to note the distinction between the development and human rights approaches to girls' education and the implications for child marriage. For the social and economic benefits approaches, ending child marriage is an externality for the medium to long term impact of girls' education programs. These approaches have stressed the many benefits of education and have noted that ending child marriage is an important positive subsequent effect. As development programs have become more prescriptive, so too has the ability to design programs and policies in order to affect this externality.

In contrast, human rights approaches view child marriage as a form of gender based violence that can be transcended by building individual agency among girls, by working with communities to change attitudes and by working through the nation-state to uphold the rights of girls through education. The human rights approaches focus on the role of the curriculum and

law in overcoming gender based constraints to girls' education. For the human rights perspective, child marriage must be addressed through the education system and the education system must reflect gender concerns. The following section highlights the basis for each of these approaches, as well as the limitations of each. The four approaches are highlighted below.

The Social Benefits Approach to Girls' Education

The literature on the social benefits of education takes as its point of departure the positive impact of education, and especially girls' education, on the public health, demographics and social stability of countries in the Global South. Girls' education is proposed as a solution that not only improves the health and life chances of girls but also produces social benefits for their families, communities and societies. In this context, if education serves to delay the age of marriage, it is positive because delayed marriage is likely to equate with reduced fertility and infant mortality.

The earliest works on the social benefits approach to girls' education paradigm evolved as part of a focus in the 1950s and 1960s on fertility, infant mortality and development in the Global South, especially in the sub-Saharan African countries, which had failed to make the demographic transition to nuclear modern family structures. Leading this research agenda were demographers, population scholars, ethnographers and sociologists whose works demonstrated the complexity of simple linear propositions equating numbers of years of schooling with changes in the age of marriage, numbers of births, numbers of live births and child mortality.[67] Being largely scholarly works, few of the authors sought to lay down policy prescriptions for governments. It was left to development

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think tanks such as the World Bank to outline recommendations for girls' education to reduce the risk of child marriage and reduce high fertility rates. By the 1990s, the prescriptive branch of the literature on fertility had evolved into a rigorous paradigm, whereby scholars focused on the "well-being and conditions" of girls in child marriages and recommendations to address this problem.[68] Among the recommendations made is that of keeping girls in school to delay age of first marriage. By the 2000s, a robust body of literature on girls' education pointed to the specific social benefits that could be expected from additional years of schooling. For instance, an additional year of girls schooling could lead to a 5 percent reduction in infant mortality rates. A woman who benefited from an additional year of school would have children who were likely to remain in school for an additional one-third to one-half of a year.[69]

The social benefits approach continued to evolve in the late 2000s, as World Bank economists produced a number of background studies on how conditional cash transfers can be tailored to both promote demand for education and create incentives that cause families and girls to delay marriage.[70] In 2012, World Bank seminal papers exploring the manifold linkages between girls' education and child marriage were produced under a broad thematic study on the issue of child marriage in Sub-Saharan Africa, funded by the Trust Fund for Environmentally and Socially Sustainable Development. The interesting issue about this new generation of studies on the social benefits of education is the careful rigor with which the search for effective policy instruments was conducted and the comprehensive mix of recommendations proposed, many of which even go beyond common cores of teaching. For example, when asking the question "What can be done to deal with issues such as child marriage?" in a World Bank paper, Dopart and Wodon mention the importance of "providing public transportation to go to schools, ensuring access to water in schools" and similar factors.[71] The social benefits approach has been important given the focus it has brought to investing in girls' education, and to identifying the incentives that will create demand for education and the potential to change behavior in relation to girls' education.

The Education and Training for Employment Approach to Girls' Education

The earliest arguments for expanding girls' access to education to include training opportunities were shaped by the 1970s International Labor Organization basic needs strategy and by the Women in Development (WID) movement of the mid-1970s to early 1990s.[72] With the ILO's basic needs strategy coming out of the World Employment Programs and the WID movement informed by Boserup's 1970 critique of women's exclusion from economic development, education in general—and, in particular, girls' education—became linked to a wider discourse on employment and economic growth. Although pioneering WID scholars devoted copious pages to the problem of child marriage and polygamy, they were mainly concerned with explaining the barriers these practices posed to labor productivity and economic growth.[73] Against this background, education for women and girls was proposed as the strategy to eliminate a range of economic barriers to growth in the Global South, including poverty, low human resource capacity, and low economic productivity. While the lost decade of the 1980s and the emergence of neoliberalism saw a shift away from an in-depth focus on the role of women and girls in the economy, the focus on girls' education for employment

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was picked up by the new structural adjustment agenda of the 1980s and 1990s, and ending child marriage remained valid as an externality. The World Bank's seminal 1991 paper *Letting Girls Learn* captured the high expectations held for the individual and economic payoff from girls' education and explored the central role for the state in providing efficient education services in this process.[74] While this 1991 work took note of culturally and gender based barriers to girls' education, no mention was made of child marriage as one of these barriers. This was not the case in subsequent works of the Bank, where the focus shifted from girls' education to providing girls with training in nonformal education settings and in turn to providing them with an alternative to domestic labor.

The shift to girls' training was part of a broader discussion on the skills set required for youth to contribute to economic growth and to survive structural adjustment and economies growing without employment. This broader focus contributed to agencies such as ILO, the Food and Agriculture Organization of the United Nations (FAO), the United Nations Development Program, the International Fund for Agricultural Development (IFAD) and the World Bank undertaking gender analyses of demand and supply side determinants of adolescent girls' under and unemployment. The solution to this problem was vocational skills building programs in nonformal settings for girls. In the case of the World Bank's Adolescent Girls Initiative (AGI), gender analysis led to studies that recognized the comparative advantage of livelihood initiatives in adolescent reproductive health programs by the Gender and Development Group. The AGI noted that adolescence for boys is associated with mobility and autonomy, "but for girls it often comes with increased restrictions, fewer opportunities and less

freedom to exercise choice. During this formative period in their lives it is important to provide adolescent girls with the tools they need to become economically empowered young women."[75]

In a recent joint publication, IFAD, FAO and ILO point out that the potential of nonformal training programs to serve as an empowering platform for girls and women escaping from traditional roles, including that of child marriage, has been missed in the framing of the MDGs.[76] While the literature on girls' education and training for employment does not address the problem of child marriage per se, by focusing on the problem of girls' training and learning of market driven skills as a strategy for their employment, this paradigm provides an alternative to child marriage.

The Empowerment Approach to Girls' Education

The starting point of the approach of girls' education as empowerment as it relates to child marriage is that child marriage is a form of gender based violence perpetuated by a male dominated power structure. Child marriage is a replication of patriarchy, and because in most cultures, girls who are wives have expected household duties, childhood marriage excludes girls from their right to education. An approach to education that focuses on empowerment assumes that child marriage and other social practices that limit girls' freedoms can be ended or mitigated through an education system that equips girls to unpack gender stereotypes, recognize gender constructed barriers and learn how to effectively self-advocate. Such an education system will provide girls with the knowledge and skills to understand, confront and take action to challenge the male dominated status quo. Therefore, proponents of empowerment

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education are principally concerned with the pedagogic content of girls' education, or what Stromquist refers to as "curriculum justice," and recommend nonformal education, which has the potential to reach more girls than formal schools in contexts where many girls are marginalized.[77] Empowerment education is often complemented by efforts to target traditional and religious leaders as custodians of culture. This group may be targeted for attitude change through public enlightenment and awareness creation campaigns that encourage them to reject gender norms that are harmful to girls.

The origins of empowerment education have been traced to feminist and alternative critiques against the "instrumentality" of the World Bank's position on girls' education, whereby an almost linear relationship is expected to exist between schooling and economic and social transformation.[78] It is this feminist critique that filtered into the international development agenda from as early as the 1970s and shaped education policy recommendations to governments in the Global South.

A host of global policies on gender and on women's and children's rights set the stage for what practitioners would later operationalize in the empowerment education approach.[79] This global policy constituted the basis for an in-depth focus on girls' learning and the curriculum by multilateral agencies such as UNESCO and UNICEF as well as in international nonprofits such as the Population Council, PLAN, the International Centre for Research on Women and Girls Not Brides. These groups drew from the gender focused conventions to fashion guidelines and recommendations on how the content of girls' education curricula in both formal and nonformal education should be designed to address issues of gender

based violence within the school and in the wider society. Research on the impact of empowerment education on HIV/AIDS prevention among high risk groups of adolescent girls in Kenya contributed to the development of these works.[80]

Against this background, compelling arguments for empowerment education were made by development agencies vis-à-vis the MDGs.[81] For example, the World Health Organization, in the preface to its 2003 toolkit for sexuality education, and UNESCO implemented programs to combat sexist stereotypes and terminologies in the curriculum.[82] Recognizing the special need for empowerment education for girls affected by conflict, UN Women argued in 2012 for initiatives to support a curriculum that "will provide girls and young women with tools and expertise to understand the root causes of violence in their communities and educate and involve their peers and communities to prevent such violence," and in a joint statement by UN agencies to commemorate the 2013 International Day of the Girl Child important empowerment policy recommendations were reiterated on how education can end child marriage.[83]

The Legal Approach to Girls' Education

The empowerment education and the legal approach are both important human rights perspectives that share common roots in the Convention on the Elimination of All Forms of Discrimination Against Women, issued in Cairo in 1994, in particular, and to a lesser extent the other global conventions mentioned in the empowerment approach. The gender contribution to MDGs has been hotly debated, as many observers have noted the inclusion of gender in the MDG Declaration but that the goals were based on achievable targets that failed to

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challenge the subjugated status of women and girls in the Global South.[84] Agencies such as UNICEF and UNESCO implement programs in both areas as they address the problem of how to end child marriage through girls' education. The approach of girls' right to education is located within a broader rights based paradigm that dominated the discourse on how to end child marriage before the current conjuncture, where education is proposed as the catalytic factor. A point of departure for the legal approach is the government's responsibility to pass and enforce laws on free and compulsory primary and secondary education. UNICEF argues that governments should make and enforce laws that facilitate girls' participation in education and states that this is a strategy to end child marriage.[85]

Similarly, the Program of Action of the International Conference on Population and Development Beyond 2014 (ICPD) specifically mentions the obligations of government to address the education, health and social needs of girls as a strategy to prevent child marriage. In its Beyond 2014 agenda-setting report, ICPD maintains a strong focus on ending child marriage by compelling governments to fulfill their responsibilities in the area of girls' rights in health and education.[86] Beyond securing compulsory education, with regard to child marriage, the major concern of the core rights based approach has been on passing and enforcing legislation on the minimum legal age of marriage and the registration of births, marriages and divorces. This approach has been found wanting because states are quick to promulgate laws on the minimum age of marriage but have been slow to set up the judicial machinery to enforce them.

Having noted that a strategy focused purely on international conventions and on laws related to the age of marriage has been insufficient, the proponents of this approach have broadened their efforts to include a focus on laws and enforcement that emphasizes keeping girls in school and free from the threat of child marriage, and on supporting girls' right to education even if they have been subjected to child marriage. In this vein, the proponents of the human rights based approach make the case for how the girl's right to education can protect her against child marriage through three substrategies:

- Governments must make schools gender friendly. Penalties for removing girls from schools for purposes of marriage will be imposed, and a child protection system will be strengthened to identify and refer such cases to the judicial system.

- The education bureaucracy of government must put in place regulations and guidelines to protect girls from harm in the school environment and to introduce flexible school administrative systems so that married girls can still fulfill their right to get an education.

- Civil society actions are recommended to track government's compliance with obligations under education laws, policies and regulations and to monitor the spending from education budgets for girls and boys.[87]

Foundations and nonprofits play an important role in the human rights space and can continue to address the issue of patriarchy and male power blocs by addressing the legal barriers to girls' rights. International rights-focused nonprofits such as Oxfam, Action Aid and the Open Society Foundation have taken the lead in the rights based approach. Action Aid and to a lesser extent Oxfam have linked civil society mobilization and budget tracking actions with the goal of ending child marriage.

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22. Such girls have been called "famine brides" in food-insecure Kenya. In Sri Lanka, Indonesia and India, "[y]oung girls were married to 'tsunami widowers' in Sri Lanka, Indonesia and India as a way to obtain state subsidies for marrying and starting a family. During the conflicts in Liberia, Uganda and Sudan, girls were abducted and given as "bush wives" to warlords, or even given by their families in exchange for protection" (UNFPA, *Marrying Too Young*, 12).

23. Ban Ki-moon, "International Day of the Girl Child: Secretary-General's Message for 2012," October 11, 2013, http://www.un.org/en/events/girlchild/2012/sgmessage.shtml

24. For example: "Support girls who are already married by providing them with options for schooling, sexual and reproductive health information and services, including HIV prevention, livelihoods skills and recourse from violence in the home" (Executive Directors of UNICEF, UNFPA and UN Women, "Joint Statement: International Day of the Girl Child 2012," October 10, 2012, http://www.unwomen.org/en/news/stories/2012/10/joint-statement-international-day-of-the-girl-child-2012).

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45. UNESCO prescribed 6 percent of gross national product, the second Fast Track Initiative recommendation was 20 percent of the national budget spending, and the EFA benchmark was set at 6.5 percent.

46. Bukola Olatunji, "AU to Launch Second Decade for Education in Africa," *This Day*, March 29, 2006.

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53. UNICEF Evaluation Office, *Evaluation Report: Changing the Lives of Girls; Evaluation of the African Girls' Education Initiative* (New York: UNICEF, December 2004).

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56. Transcribed interviews with Director Department of Social Welfare, Gambia (July 2012).

57. Ford Foundation Regional Meeting on Ending Child Marriage, Abuja, March 2013.

58. "Opening Statement of Mr. Babatunde Osotimehin, Executive Director United Nations Population Fund (UNFPA)" (ICPD Beyond 2014 – African Regional Conference on Population and Development, Addis Ababa, 3 October 2013).

59. A detailed summary of the education sector plans of 13 West African countries, prepared by the author, is available upon request. This summary identifies girls' education objectivities and activities included in these ESPs.

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60. A 2013 ICPD survey reports that three of the poorest countries with high rates of child marriage (affecting between 39-75 percent of girls) do not show government commitment toward this issue, and 11 of the 41 priority countries did not respond to the survey (*Message and Preliminary Findings from the ICPD Beyond 2014 Global Review*, June 24, 2013).

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62. UNFPA, Motherhood in Childhood, xi.

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64. For example, Open Society Initiative, the Ford and MacArthur Foundations, World Vision and UNICEF.

65. For example, within the social sector in Ghana, the National Commission on Civic Education; the Department of Social Welfare; the Department of Children at the Ministry of Women and Children Affairs; the Human Rights Advocacy Centre; and the Girl Child Unit of the Ghana Education Service under the Ministry of Education are but are few agencies with responsibility for the girl child.

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Enhancing Girls' Participation in Science in Nigeria

A Driver for National Development and Social Equality

Adefunke Ekine
  with Negar Ashtari Abay

"On a worldwide scale, science… is still a man's business. This situation is no longer acceptable. It is economically unacceptable because of the waste of human resources that it entails; it is humanly unacceptable since it prevents half the population from taking part in building the world; it is intellectually unacceptable as it deprives scientific and technological research of ideas and methods, in a word, of creativity. Furthermore, it mortgages the future since it nullifies any prospect of a general mobilization in support of science in the service of a lasting peace and sustainable development".
  —Federico Mayor (1999), the Director General of UNESCO[1]

This paper reviews the issue of girls' limited participation in science in Nigeria, which is also an issue throughout many countries in Africa. It reviews the literature on the factors affecting girls' learning and analyzes the situation in Nigerian classrooms. Key among the factors contributing to the science gender gap are cultural biases that hold that science is the domain of males, that it is not important for girls' future lives, and that girls are not as capable as boys when it comes to science learning. These biases are manifested in science curricula, instruction and assessment, and they thus influence the attitudes of both girls and boys, along with parents and teachers. This paper makes the argument that girls must be engaged in science at the early primary school level because this is when their interests and attitudes about learning are formed. Sensitivity to gendered cultural norms that affect classroom practices and students' learning is critical, and policy responses are also needed in order to bring girls into science from an early age.

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Drawing on best practices for promoting gender equity in science, the paper recommends six areas in which measures can be taken to improve science education for girls and boys in Nigeria: improving data quality and accessibility; incorporating gender equity training into teacher education; using storytelling as a means to enhance learning and interest in science classrooms; building on science, technology, engineering and mathematics (STEM) initiatives in Nigeria; women helping women in science; and enhancing partnerships to promote girls' participation in science.

THE IMPORTANCE OF SCIENCE AND SCIENCE EDUCATION FOR ALL

Science plays a central role in contemporary society, with the potential to improve lives in a multitude of ways and advance national development. Access to the fruits of science at the individual and collective levels, however, lies primarily with those endowed with scientific knowledge and skills. Increasingly, those with the greatest understanding of science and technology have access to the best information, opportunities and jobs. Science can be regarded as the cornerstone of industrial development and the link between technology and socioeconomic development. A country's ability to secure good health, fight diseases, protect the environment, produce food for its people, and develop new industries and technologies is dependent on the scientific knowledge and skills of its people. Any nation that neglects the provision of good quality science education may quickly find itself the dumping ground of other people's innovations, without the necessary human resources to sustain growth and compete in a global economy.

Recently, global discussions on education have moved from focusing primarily on school *access* to placing greater emphasis on the *learning* that takes place in classrooms, and science is a critical part of the learning that all children need to acquire. Although primary school enrollment in sub-Saharan Africa has increased from 59 percent to 77 percent in the last decade, large numbers of children leave school without acquiring basic knowledge, skills and competencies.[2] 45 percent of the 128 million children of primary school age in Africa are not learning basic literacy and numeracy skills after four years of school, per the Africa Learning Barometer.[3] While science competency is not systematically assessed in most African countries, there are indications that science education remains weak.[4] Science and technology are among the seven learning domains that are foundational to lifelong learning for any child, as identified by the Brookings Institution's Learning Metrics Task Force. A lack of adequate competence in these cognitive and noncognitive areas will hinder children from effectively learning as they progress through higher levels of education and from becoming healthy, productive adults.

Like other countries in the Global South, Nigeria has in recent years sought to ensure equitable access to education for all (box 1). In this context, girls' access to education has received attention at the policy level, and progress has been made toward gender parity in enrollments in some regions of the country. However, far less attention has been paid in Nigeria to the quality of children's learning and to girls' participation in different areas of learning, including science and technology.

While the Nigerian government has in recent years focused attention on strengthening na-

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tional capacity in science and technology—a key recommendation and objective of its Vision 20:2020 plan for economic transformation—it has yet to fully recognize the importance of gender equity in science education and has not initiated any national policies toward this goal. Female participation in science receives mention in Nigeria's most recent Science, Innovation, and Technology Policy, but no specific objectives have

been developed.[5] This, in part, is due to a lack of awareness in Nigeria of the problem of the science gender gap and the importance of girls' and women's participation in science. Education for all understood in terms of equal access to education is not enough. Equality and the future development of societies are dependent on providing a high quality science education for all.

BOX 1. BASIC EDUCATION IN NIGERIA SNAPSHOT

Data on Nigerian education reveal that effective policies are needed to improve both access and learning, particularly for girls. Nigeria has one of the largest out-of-school populations in the world, with 10.5 million children not enrolled in school.[6] Of the children who are enrolled in primary school, 47 percent are girls. Girls' enrollment further declines to 44 percent at the junior secondary school level.[7] The survival rate to the last grade of primary school is 69.8 percent for girls and 77.4.[8] Only 53 percent of all students throughout the country transition to secondary school.[9]

There are, however, considerable regional disparities in school access. In the northern states, gender disparities in enrollment remain great, while considerable progress has been made toward gender parity in access to education in southern Nigeria. Only 4 percent of girls and 3 percent of boys from rural areas and less than 1 percent of boys and girls from urban areas are out of school in the south of the country.[10]

Going beyond access, many Nigerian students are not learning the basic skills they need to succeed. Sixty percent of students who have completed grade 4 and 44 percent of students who have completed grade 6 are not able to read a complete sentence in any language.[11] Numeracy rates show about 10 percent of students unable to do basic addition by the end of primary school.[12] In the North, learning outcomes are particularly bad; more than two-thirds of students who have completed grade 6 remain illiterate. A recent survey in Sokoto State in the Northwest Savanah region found that 80 percent of Grade 3 pupils are not able to read a single word.[13]

While recognizing the many pressing concerns and unevenness of educational provision in Nigeria, this paper focuses on improving science education and learning for girls, as well as boys, who are already enrolled in school at the primary level. The potential of these more than 20 million children to contribute to Nigerian society if given the adequate encouragement and training in science education must not be squandered.[14]

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WOMEN AND GIRLS' PARTICIPATION IN SCIENCE
An Opportunity for National Development and an Imperative for Social Equality

Closing the gender gap in science is of critical importance for all countries because failure to do so means the loss of vast human resources that could contribute to national development and could further entrench gender inequality in society.

> **BOX 2. UNDERREPRESENTATION OF WOMEN IN STEM FIELDS AND SCIENCE RESEARCH GLOBALLY**
>
> In the United Nations Millennium Declaration, member countries avow "to promote gender equality and the empowerment of women, as effective ways to combat poverty, hunger and disease and to stimulate development that is truly sustainable."[15] Although progress is being made to increase women's participation in many fields, UNESCO figures reveal that women make up a minority of the world's science researchers. In 121 countries with available data, women make up 29 percent of science researchers.[16] Throughout the world, women continue to be significantly underrepresented in every sector of science, technology, engineering and mathematics (STEM). Men outnumber women as students, educators, researchers, and workers in these fields. While the number of women enrolling in higher education is increasing rapidly in many countries and in some has surpassed male enrollment, men significantly outnumber women in science and engineering disciplines.[17]

A country's ability to create, apply and diffuse scientific and technological knowledge is now a major determinant of its socioeconomic development and national competitiveness. This potential, however, cannot be fully realized without making the best use of the entire population of a nation—including girls and women. Most African countries lag behind in the generation of the human technological capacity on which further economic development is heavily dependent. "If only more girls could be persuaded to take up science and technology subjects in schools, and could be persuaded to do better in them, the countries, so the argument goes, would have the benefit of an increased technological output with few extra inputs."[18] There are 69 million women and girls in Nigeria;[19] their exclusion from the generation and application of scientific knowledge represents a tremendous waste of human potential.

Women undertake 60 to 90 percent of agricultural production activities in the developing world, and they carry the primary responsibility for providing for the water, energy, sanitation and health care needs of their family and communities.[20] Moreover, their exclusion from participation and high achievement in science education means that they have limited access to jobs in these fields, which are among the fastest growing and highest paying. Studies have shown that a student's performance in science and mathematics is a strong indicator of later earnings.[21] This is the case even within the education system itself, where teachers and lecturers in science are often paid more or have a competitive advantage over their colleagues in other fields.[22] It is also in science and mathematics subjects that many of the cognitive and noncognitive skills necessary for individual and national development, such as higher order thinking and problem solving, are expected to be learned.[23] For science to largely remain the domain of men is a sure means to perpetuate existing inequalities on the basis of gender in society.

Closing the gender gap in science is also essential for ensuring that women as much as

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men benefit as citizens and contributors to their societies. Women should not be limited to being passive users of science and technology but instead should be active participants in scientific development, application and decisionmaking, ensuring that science and technology initiatives are implemented to address the needs and preferences of both sexes.[24] Astoundingly, research has found that "after decades of S&T [science and technology] interventions in development, women's overall position actually declined relative to men's, and women have become disproportionately poor in comparison with men in their communities."[25] Therefore, the gender gap in science and technology must be more effectively addressed to benefit both society and the individual. As women increasingly participate in science and technology, their communities and nations will also reap the benefits. However, educationalists must re-examine the pedagogy and practice of science, given the ongoing underrepresentation of girls and women in science.

THE SCIENCE GENDER GAP IN NIGERIA

Where sex disaggregated data is available, the general trend in African countries is that fewer girls choose science subjects as they progress through the education system, and they are outperformed by boys in some countries. Reliable and comprehensive data on gender parity in science participation and performance at the secondary school level and lower are not readily accessible in Nigeria. Available girls enrollment data from Nigeria shows the trend of under enrollment in physical science classes at secondary level. The gender parity index (GPI) for Biology of 0.83 reflects the GPI for secondary school overall

as it is a required subject. In contrast, the GPI for Physics is 0.73 and the GPI for Chemistry is 0.73. This trend is exacerbated as students progress to university and to pursue teaching as a profession.[26] By the time students reach the university level, it is evident that women are underrepresented and unevenly concentrated in science subjects. Table 1 shows the percentage of female university students enrolled in science and technology courses across 12 states in Nigeria from 1998 to 2002. While numbers in both groups increased from to 1998–99 to 2001–2002, the ratio of men to women remained about the same, at 3:1.

TABLE 1. PERCENTAGE OF FEMALE UNIVERSITY STUDENTS ENROLLED IN SCIENCE AND TECHNOLOGY COURSES IN 12 NIGERIAN STATES, 1998–99 TO 2001–2002

Year	Science	Technology
1998–1999	32.2	17.3
1999–2000	33.9	16.1
2000–2001	29.3	14.2
2001–2002	25.9	23.4

Source: Federal Office of Statistics, 2003 abstracts.

In 2001–2002, women made up only 23 percent of students in technology courses and 26 percent of students in science courses. The gender disparity in science enrollment actually increased over these years. The underrepresentation of women in university science courses is reflected in the fact that women make up only 17 percent of all science researchers in Nigeria.[27]

Data gathered at the University of Ibadan, Nigeria's oldest university, reveal a trend consistent with international findings on women's choice of subject (box 3). A majority of women who choose to pursue an undergraduate science degree pursue the life sciences.

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Overall, women make up just under 35 percent of students in these science faculties, while they make up 42.6 percent of the total number of undergraduate students. Women tend toward clinical science and public health, yet they are significantly underrepresented in the science, technology, and engineering faculties (37.6 percent female and 16.4 percent female, respectively).

THE IMPORTANCE OF THE PRIMARY SCHOOL LEVEL

It is vitally important to cultivate interest in science while girls are still engaged and to affirm from an early age that science belongs to them as much as to boys. Research on girls' and boys' engagement in the sciences reveals that disparities in participation and interest tend to widen as students transition to higher levels of education.[29] In many African countries, women transition to secondary school in lower numbers than boys and enroll in fewer science classes. As already noted, those women who study science at the university level are less likely than men to concentrate on science, particularly the physical sciences and engineering. And the numbers

drop off even more starkly from there. This trend in science education has been termed "the leaky pipeline," because so many girls and women drop out along the way.[30]

Although science is a compulsory component of the primary school curriculum, so that participation is not yet an issue, it is at this level that gender disparities in interest, and in some cases performance, begin to emerge in Nigeria and in other countries. At the earliest ages (below seven years), few differences in children's engagement in science are documented.[31] Research on primary science teaching in Nigeria conducted in 10 schools in Oyo State indicated that disparities in interest in favor of boys begin to appear at the upper primary school level and could be tied to performance.[32] Likewise, other research on science education in Nigeria traced the constant decline of girls' interest, and in some cases performance, in higher education and secondary school science to the experiences that girls had in their primary science classrooms.[33] Studies in other African countries also indicate that gender disparities favoring boys set in by the end of primary school—for example, in mathematics skills, positive attitudes toward science, and confidence to participate in science class.[34]

So while the gender gap widens as students get older, there is consensus among researchers that interventions to advance girls' learning and address the gender inequity in science need to start at an early age (box 4).[35]

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Early science education, particularly in primary school, is important for several reasons. One reason is that the acquisition of skills that occurs in early childhood and primary school serves as the foundation for all future learning. According to the Nobel Prize winning economist James Heckman, interventions in the early years have a higher rate of return per dollar invested than those targeting older children and adults.[38] During these years, children have the greatest opportunity to develop the cognitive and noncognitive skills that can lead to greater achievements later in life. A study conducted in Malawi examining the importance of early learning, for example, found that children's development and mathematical ability at the age of five predicted mathematics ability and school learning outcomes in adolescents at age twelve.[39] Similarly, research on brain development shows that the thinking skills necessary for problem solving are best developed between the ages of four and twelve, which is when most children are in primary school.[40]

The early years (from birth to eight) are also the period when the brain is most "plastic." Attitudes are highly malleable at this age but have a long-term impact on learning.[41] A longitudinal study conducted in the United States on children's beliefs about their own academic competency found that girls rate their mathematics ability lower than boys from an early age, despite the fact that no actual difference in math achievement exists.[42] Such findings are significant because students with greater self-confidence in their science and quantitative abilities are more likely to do well in these subjects and to pursue careers in these fields.[43] This again corroborates the fact that early intervention is vital for increasing girls' self efficacy and participation in science. The tendency for learning disparities to emerge between boys and girls during primary school in many African countries also indicates that girls experience an early and significant disadvantage in these contexts.

More children are now enrolled in primary school in Nigeria than ever before, and all primary school students study science. Primary school therefore holds the potential to ensure that both girls and boys develop positive attitudes toward science from the start, and develop a strong foundation for future learning. But this means that gender equity must be promoted in science classrooms and that practices supporting girls' learning of science must be employed. A gender equity approach, which goes beyond trying to treat girls and boys the same, recognizes the prevailing gender inequality in the field of science and in society. It advocates for a strategic focus on girls in order to promote their participation, higher achievement and interest in science.[44] This does not, however, disadvantage boys. What is good for girls is also good for boys. Equity and high quality very clearly work together in the case of science education.

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REASONS FOR THE SCIENCE GENDER GAP

Various factors have been identified as contributing to women's and girls' continued low rate of participation and, in some contexts, underperformance in science. Many of the arguments can be classified under the nature versus nurture debate. One argument, for example, is that because girls' brains develop differently from boys', biological differences explain the gender gap in science. Some have posited that the developments in boys' brains result in better developed visual spatial ability than that possessed by girls, and that this could explain differences in abilities and interest in mathematics and some science subjects.[45] Others find the evidence inconclusive and dispute the argument that biological factors cause gender differences in performance or interest in science.[46] Moreover, the fact that in some countries girls perform as well as or even better than boys in science would seem to contradict the view that gender disparities are due to innate, biologically determined characteristics (box 5).[47]

Box 5. International Trends: Counterevidence to the View That Boy Are "Naturally" Better at Science Than Girls

The most recent TIMSS, conducted in 2011, gathered data from 63 countries regarding student performance at the fourth and eighth grade levels. Although only two African countries (Botswana and South Africa) were included, the study revealed that in 10 countries, girls outperformed boys in science in the eighth grade. In 9 countries, gender disparities in performance favoring boys persisted, but in 12 countries that had previously shown such a disparity, gender parity has now been achieved.[48] This provides counterevidence to the view that girls are not as capable as boys of learning science.

It is not surprising, then, that research gathered in multiple cultural contexts draws attention to extrinsic factors that contribute to the persistence of the gender gap in science participation, interest, and, in some contexts, achievement. The most influential of these factors are sociocultural beliefs that favor males and classroom practices that discourage girls in their pursuit of science. These include societal beliefs about females' innate abilities and social role biases in the curriculum, teacher–student and peer interactions, and the methods of pedagogy and assessment.

Sociocultural Beliefs and Practices

In many African countries, girls' exclusion from science can be attributed largely to the construction of feminine identities, ideologies of domesticity and gender stereotypes.[49] Formal and informal sociocultural norms and expectations about the role of females in society have tremendous effects on girls' educational opportunities, learning outcomes and decisions about study and work.

At the most basic level, obstacles to school access and retention remain fundamental barriers to girls' participation in science, both as children and adults. Girls outnumber boys among children out of school, and they are more likely to begin schooling at a later age. In Nigeria, late school entry is a particular problem among poor children and girls. Less than 50 percent of the poorest girls are enrolled in school at age six.[50] Girls also face greater constraints on pursuing their studies due to household demands on their labor, threats to their physical safety, a lack of necessary sanitation facilities at school and societal beliefs that privilege investments in boys' education.[51]

Beyond access, cultural biases that impede girls' learning and pursuit of science are significant. Gender biases and discrimination play out

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acutely with respect to science, particularly the physical sciences, engineering, mathematics and to some extent computer science, which continue to be seen as the domain of males.[52] Education, in general, and science education, in particular, are often viewed as being of less value to girls, given the cultural expectations about their primary roles as wives and mothers. Parents may directly dissuade girls from pursuing science or indirectly convey their differing expectations by insisting that boys take science subjects and leaving girls to choose what they want to study.[53] Girls themselves—as well as their families, teachers and school peers—question the relevance of science to their own lives.[54] People may even doubt that a woman can be trusted to fly a plane or supervise a road's construction, which are viewed as entirely a man's domain. Such beliefs have a negative impact on girls' practical and academic interest and learning in science. In many countries, studies have shown that girls, on average, tend to perceive science as difficult, uninteresting or unappealing in the future prospect it offers.[55] Girls may be further discouraged by the prevalent perception that they lack the ability and, in some contexts, the "toughness" to succeed in the sciences. This is of great consequence to learning, given that there is a strong correlation in science and mathematics between positive attitudes and high performance.[56]

Such gendered stereotypes are often ingrained early in life and are difficult to overcome. There is a prevalent view in Nigeria that women's and men's traditional roles in society should be preserved, and therefore girls should not compete with boys in class. Those who do pursue science can be stigmatized as aberrant or, at best, deemed "exceptional," whereas boys are presumed to have a "natural ability."[57] Views about

the proper conduct for girls—as submissive, reserved and unquestioning—shape student–teacher and peer interactions in schools and thus have implications for girls' learning.[58] In most societies, a girl's choice to study science is also seen as weakening her identity as a girl and as making her appear less feminine.[59] In contexts where a girl's worth and material circumstances, as well as those of her family, are intimately tied to her marriage prospects, the implications of challenging the dominant construction of female identity are not easily dismissed.

Additionally, the notion of gender equality is often dismissed as a Western import and a vestige of colonialism.[60] But with more women accessing science education and careers, even if in small numbers, these views are beginning to change. Nigerians are increasingly able to point to female role models such as Grace Alele Williams, who was the first Nigerian woman to obtain a doctorate, in mathematics education, and who then rose to become the first female vice chancellor of the University of Benin. Nonetheless, Nigerian women's lack of visibility in the sciences, and the lack of recognition that they can play a part in the sciences, at both the local and national levels, persists.

These different forms of cultural bias and discrimination against girls in relation to their participation in science greatly exacerbate their lack of self-confidence, which often translates into a lack of interest and leads them to drop out of science classes. As girls get older, they tend to become less confident in their abilities, even if they are performing at the same levels as their male peers,[61] and thus they often show science- and mathematics related anxieties,[62] and come to believe that science is not for them.[63]

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Classroom Practices

Motivation and interest arouse a student's curiosity to learn, respond and attend to subject matter. Students' ability to learn is affected by both extrinsic motivation—their engagement with a subject or activity in order to receive reward or avoid punishment—and intrinsic motivation—engagement because it is personally satisfying and unrelated to the external reward or punishment they might receive.[64] The vast amount of research that has been done on the relationship between these two types of motivation and learning indicates that intrinsic motivation is of particular significance to sustained student learning. Intrinsic motivation is enhanced when practices promote a student's sense of personal autonomy, when they feel supported and safe, when their school work is challenging but also relevant to their lives and when it builds on their experiences.[65] However, in science classroom environments throughout Nigeria, girls are often actively discouraged from engaging in science subjects and activities, their self-confidence is eroded, and very little is done to enhance their motivation to pursue science.

A student's experience in the classroom—interactions with the curriculum, teachers and peers—has a strong effect on her engagement and learning in a subject.[66] In some science classes the interest, motivation and achievement of boys is enhanced, while females experience discouragement due to factors related to curriculum, instruction and assessment.

Science textbooks in many countries have been noted for their male bias and frequent use of gender stereotypes.[67] This bias is reflected in the narrative structure, images, examples and topics used in the texts and their related classroom activities. A commonly noted bias is the portrayal of men as "active" in the generation and application of science, while females are portrayed as "passive" and occupying subordinate positions.[68] Contemporary and historical examples of the contributions of women to modern science and local scientific knowledge are often excluded from the textbooks used in African countries.[69] Examples of local scientific practice and indigenous knowledge production in which females are directly involved are even more likely to be absent.

Girls' dissatisfaction with the way in which science is presented in the classroom has a negative impact on their interest in the subject.[70] Curricular materials often fail to show the link between biology and other subjects or to emphasize the social and societal connections with science. Studies have shown such connections are of interest to both boys and girls, with girls particularly drawn to topics that involve helping others.[71] Yet despite efforts in some countries to address these biases, they persist. The problem is further aggravated in schools that rely on old textbooks and countries that lack the publishing capacity or resources to develop curricular materials that are more appealing to both girls and boys in a social context.

Teachers play an influential role in schools and act as a primary source of gendered messages received by students. The majority of time at school is spent with teachers, who are responsible for curricular and organization decisions and hold a position of authority relative to their students. And the lack of texts in many rural schools means that the role of the teacher is all the more important.[72] However, in many countries teachers have a tendency to give boys more

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feedback than girls, call on boys more often, give them longer time to answer, and more frequently ask them higher order questions than they do girls. Praise, encouragement and feedback are more often directed to boys. Interactions with girls tend toward social, nonacademic topics, and girls are less frequently called on to help with demonstrations or experiments.[73] Science has also traditionally been taught in a more competitive and teacher centered manner, which has tended to dampen girls' interest in STEM.[74] Similar to findings elsewhere, studies in Nigeria reveal that girls are given less time than boys for a task in science classrooms, and boys are generally given more opportunities to ask and answer questions, to use equipment and learning materials, and to lead groups.[75]

Studies of African classrooms—though few in number—reveal entrenched gender inequities from very early grades.[76] For instance, an ethnographic study in Liberia showed differences in girls' and boys' confidence (a pattern observed around the world), with boys believing they were smarter and receiving better grades than girls. The same study revealed that girls were less verbal in fourth grade than they were in first grade; by fourth grade, they were also called upon less often, volunteered less frequently and preferred to write responses on the board.[77] A Guinean study similarly showed reduced teacher–student interaction from first to fifth grade and a related decline in girls' confidence.[78] A more recent study of primary school teachers in Benin revealed that the majority of teachers surveyed believed that science was less important for girls, given their future roles, and classified subjects according to the gendered divisions in society. Also, the belief that girls had weaker academic abilities when it came to science influenced how primary school teachers taught.[79]

Teachers' own experiences with science education can have an effect on their students. Women teachers, who are often concentrated at the primary school level, may have negative attitudes toward science acquired from their own school experiences. Such attitudes are easily transmitted to their students from an early age, making it difficult to foster interest or provide a strong foundation of learning in science for girls.[80] At the postprimary level, fewer women than men select science and mathematics as their teaching subjects, a phenomenon that both perpetuates the belief that science is not for girls and that fails to provide positive role models for female students.[81] This is reflected in the teaching subject selection of student teachers at Tai Solarin University in Ogun State in Nigeria, the first university of education in Nigeria (table 4).

TABLE 2. SELECTED TEACHING SUBJECTS OF UNDERGRADUATE STUDENT TEACHERS IN THE COLLEGE OF SCIENCE, INFORMATION AND TECHNOLOGY AT TAI SOLARIN UNIVERSITY

Subject	Number of Men	Number of Women	Percent Female
Biology	92	259	73.8
Computer science	285	210	42.4
Information and communication technology	162	97	37.5
Petrochemical science	236	98	29.3
Health education	105	224	68.1

Source: Tai Solarin University, "University Student Enrolment per Department, 2011-2013," (Ijagun, Ogun State, Nigeria: Office of the Registrar, 2013).

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A total of 63.8 percent of all undergraduate students at this university, all of them training to become primary and secondary school teachers, are women. However, in the College of Science and Information Technology, which is responsible for training science teachers, men outnumber women, more than two to one in computer science, information and communication technology, and petrochemical science. Women are represented in proportion to their overall enrollment in health and education, and slightly overrepresented in biology. Women make up only 18 percent of lecturers in this college.[82]

The style and kind of assessments used by teachers can also be a source of gender bias. Some evidence suggests that boys perform better than girls in competitive, high-stakes tests. For example, in some contexts risk taking is not encouraged in girls, making it more likely that they will leave blank those multiple choice questions for which they are not sure of the answer.[83] Contributing to this is the tendency for boys, on average, to have greater confidence in their abilities and science knowledge than girls. However, when tests include a diversity of question types—such as short answers, problem solving, and multiple choice—the differences in girls' and boys' achievement narrow.[84] How assessments exacerbate gender disparities in performance in science remains an area requiring greater research. A recent review of the gendered dimensions of teaching and learning recommends that equitable learning outcomes for girls can be promoted through the use of continuous assessment and that the value of international assessments for informing national policy on learning outcomes can be enhanced if a specific gender focus is included.[85]

From this review of factors contributing to the science gender gap, it is evident that access to basic education is crucial but not enough to ensure girls' participation in and learning of science. Due to the gendered processes of socialization that occur in the home and wider society, there is a tendency for boys to have an environmentally induced head start in science.[86] The gendered biases, expectations and stereotypes that children confront at an early age can either be powerfully reinforced or challenged in school. Moreover, how science is taught can either serve to engage girls—as well as boys— and foster their interest, or can worsen both negative attitudes toward science and a lack of self-confidence. In this regard, high quality and equity in science education are complementary and need to be established from the start. Interventions to support girls' learning in science must begin at an early age, when the skills and knowledge fundamental for future learning are being acquired, and before gender disparities are cemented.

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RECOMMENDATIONS FOR SUPPORTING GIRLS' ENGAGEMENT AND LEARNING IN SCIENCE IN NIGERIA

Improvements in girls' performance and participation in science over the past three decades in some countries indicate that efforts to address gender disparities have had a positive effect, although this has not been systematically studied through tracer studies and impact evaluations.[87] Ideally, a combination of strategies should be employed that take into account the local context and the specific barriers facing different populations of girls. The recommendations presented here focus on six areas for advancing girls' engagement and learning in science in Nigeria, with particular emphasis on the primary school level:

1. Improving data quality and accessibility.
2. Incorporating gender equity into teacher education.
3. Using storytelling to enhance learning and interest in science classrooms.
4. Building on STEM initiatives in Nigeria.
5. Women helping women in Nigerian science.
6. Enhancing partnerships to promote girls' participation in science.

Improving Data Quality and Accessibility

There is a serious need for more, better quality, and readily accessible data to track trends and progress. Sex disaggregated data are difficult to obtain in Nigeria on students' enrollment and performance in science at all levels, and also on the number and distribution of science teachers throughout the country. Participation in regional and international assessments would similarly aid in monitoring trends and the impact of interventions, although a more specific focus on gender within these assessments would be preferred. Inconsistent and unreliable data for assessing gender equity in science reflects a lack of recognition of the importance of the issue. In turn, the lack of relevant data means that statistics are not available to document and track the problem, thus perpetuating the issue's lack of visibility.[88]

Incorporating Gender Equity into Teacher Education

Given the influential role of teachers in students' learning, concerted action is needed in Nigeria to address gender inequities in teaching, to improve teachers' attitudes toward science in general, and to encourage more women to go into science teaching.

The lack of gender sensitivity training in teacher education in Africa is a widely noted problem.[89] Teacher education programs in Nigeria need to provide teachers with training that will build the capacity to recognize gender biases in school settings and to address gender inequity in their teaching of science specifically. In the first instance, this requires enhancing the self efficacy and sense of self worth of teachers, particularly female teachers. The low status of the teaching profession, which is sometimes viewed as a career of last resort, runs counter to teachers viewing themselves as agents of change. An approach is needed, therefore, that empowers teachers so that they can in turn empower their students to challenge prevailing views. Building capacity to take effective action also demands that actual practice in using gender equitable teaching methods need to be included in such training.[90] For example, while collaborative activities have been shown to foster learning in

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science and to benefit girls, evidence also suggests that there needs to be an awareness of those inequitable behaviors that are likely to come into effect. Boys may be more likely than girls to adopt the role of leader, to manipulate equipment, and to ignore girls or dismiss them. Without active encouragement, girls often take on passive roles.[91]

Because of ingrained cultural biases and the level of capacity building that is required to counter prevailing patterns of socialization, gender equity training is unlikely to be successful as a one-time workshop. For this reason, it is recommended that such training be included as a full course or mainstreamed component of preservice teaching and be regularly offered as a part of in-service teaching. What is required is for a gender equitable approach to teaching to be explicitly integrated into classes on both content and pedagogy.[92]

To kick start and support this process, it would be beneficial to work closely with a core group of teacher educators and both preservice and in-service teachers who are committed to promoting girls' participation in science, and who thus could engage in a process of action research, documentation and reflection as they put gender equitable practices into effect in their own classrooms.[93] The lessons learned could then be incorporated into the gender equity training provided for all teachers. This would build on local experiences and enhance the quality of the training provided. The core group could then mentor other teachers—and, if successful, the model could be replicated in other institutions and geographical areas.

There is also the need to improve attitudes toward science among female teachers and to increase their interest and capacity in teaching science. To do this, it would be helpful to have incentive programs and career counseling that would encourage women to go into science teaching, to provide in-service training and support in science content, and to encourage mentoring and networking among science teachers through professional associations. The use of storytelling, games and other engaging teaching methods could potentially also have the effect of increasing teachers' interest in science education. Ultimately, the positive impact that female teachers can potentially have on girls' learning is dependent on teachers receiving adequate gender training as well as on the quality of their overall education as teachers, neither of which has received adequate attention in Nigeria.[94]

Storytelling: An Intervention for Supporting Girls' Learning and Interest in Science Classrooms in Nigeria

Giving increased attention to learning provides an opportunity to attend more closely to what occurs in Nigerian science classrooms and how the quality of science teaching can be improved to better serve girls as well as boys. Several practices are considered to promote equitable learning environments for girls and to have a positive impact on their continuation in studying science. These involve adapting classroom science to make it more engaging and interactive, encouraging relational and collaborative learning, and presenting science in a way that emphasizes social and societal connections.[95] Also of importance is starting early in girls' academic lives before they lose interest and confidence. It is with this in mind that introducing storytelling into science classes in Nigeria is proposed, beginning with the primary level.

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With the growing consensus that strengthening girls' interest in science is as important as ensuring that they perform well,[96] the value of storytelling in science education has received increased attention in recent years.[97] Research suggests that stories trigger responses in the brain in ways that simple lecturing may not: Thus, storytelling activates the brain beyond mere word recognition, as similes and metaphors trigger the brain's sensory lobes, and action words stimulate the brain's motor cortex.[98] Research has likewise shown that stories stimulate the brain, even changing how we behave and potentially make life decisions.[99] There is also a growing recognition of the role that storytelling can play in integrating insights from different disciplines and in relating classroom learning to the outside world.[100] Moreover, storytelling is an intervention that can effectively draw on local materials and concepts for primary science instruction.

Unfortunately, in Nigeria, as elsewhere in the world, most students have their first introduction to science through lectures in which teachers dictate facts and information, and from assigned textbook reading that does little to engage students' interests. The traditional mode of science education is further undermined by large classes, by teaching undertaken with the primary aim of passing standardized exams, and by an overburdened curriculum that restricts the time allotted to each topic.[101] Telling stories, however, is among the easiest interventions to introduce into science classes. If science were taught through the lens of stories, teachers would not only build on girls' strengths in verbal skills but also engage the interest of all students.[102]

In the Nigerian context, storytelling has the added advantage of building on local traditions. In most communities in Nigeria, people of all ages participate in formal and informal storytelling as a form of interactive performance. In local communities, a child's traditional indigenous education includes training in the oral arts, and participation is an essential part of communal life.[103] Storytelling is among the oldest means for transferring knowledge to future generations, but its use in formal schooling has been limited.[104] This is a lost opportunity to enhance the understanding of scientific concepts by weaving in local and indigenous stories, introducing issues and concerns related to students' local context, and highlighting women's contributions in this area.[105]

As a part of its educational efforts, storytelling is used to a limited extent in Nigeria to enhance preschool children's literacy and reading skills; for example, with the national television programs *Sesame Street* and *Sesame Square*.[106] However, though language classes and textbooks use stories to teach grammar and comprehension, stories are rarely used in science textbooks or classes. Stories can be shared orally by parents and teachers, read by children themselves, and (where feasible) developed into digital stories. The possibility also exists for developing accompanying games that use local materials or are converted to digital form. There is a need to pilot such materials in primary school classrooms in Nigeria, as well as evaluate their impact on girls' interest and learning in science, so that their use can be scaled up if successful.

As a pilot storybook for such research, *The Lost Soil* tells the story of a community's struggle with soil erosion (box 6). A horrible rainstorm causes bad flooding in the town of Anambe, leading to erosion and the stripping away of the farmland,

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bridges and roads. The main character, Adaku, is the leader of the town's school trivia team and takes the initiative to learn how to stop erosion so the town can thrive again. The story is told in such a way that Nigerian children will be able to relate to it and learn about environmental stewardship, without excluding either boys or girls from the learning process.

Building on STEM Initiatives in Nigeria

While there is an absence of national policy or specific objectives for addressing girls' limited participation in science, several initiatives in Nigeria over the years have sought to promote and improve Science, Technology, Engineering, and Math (STEM) fields of study more generally (box 7).

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Career Days

Career days are set aside periodically in schools to expose students to the career choices available in the many fields of human endeavor, including in science. The medical field is often well represented at these fairs, which draw on local experts to come in and talk with students. Career days usually target senior secondary students in their final term of school.

Science Fairs and Quizzes

The Science Teachers' Association of Nigeria, a nonprofit association of STEM teachers, organizes annual science fairs and quizzes at the state and national levels for both primary and secondary students. These fairs, although not specifically targeted at females, encourage the production of science projects. Prizes are awarded to those with the best projects.

Information Campaigns

Many states in Nigeria organize information campaigns on scientific and technical occupations to familiarize students and their families with the range of careers and jobs in these fields. In a few states, these campaigns have reached the broad public through intense media coverage.

Televised Competition

Large, nationwide, government funded projects—such as the Junior Engineers, Technologists and Scientists (JETS) initiative—seek to make science fun for young learners. JETS began in 1982 for science students in secondary schools. The competition starts at the zonal level, the winners of which proceed to the national level and compete in front of a televised audience. Other televised competitions, such as the Mathematics Olympiad organized by Promasidor Quality Food Products (COWBELL) in collaboration with the National Mathematical Centre in Abuja, also run and are popular among young audiences.

Clinics and Academic Support

Science, mathematics and technology clinics for girls in specified institutions and locations in Nigeria have reached an advanced stage of planning, although they have yet to be implemented. The clinics are designed as a comprehensive, multiphase interventions aimed at increasing the number of females prepared at the school level to enter science and engineering studies.

Awards and Scholarships

There are a few isolated scholarship awards available for girls in science. One of note is from the Association of Professional Women Engineers of Nigeria, a subgroup of the Nigerian Society of Engineers that notes the discrimination that women face in engineering, and therefore offers a scholarship at the junior and senior secondary school levels. Scholarships are also awarded by the government at the state and federal levels to both boys and girls for the study of STEM subjects at the university level. An example of this at the university level is the Petroleum Technology Development Fund under the Ministry of Petroleum, which provides scholarships to high performing undergraduate and graduate students in engineering, geology, science and management.

There is an opportunity to build on these initiatives to target girls and engage them in science at the primary level. This could be done by:

- *Adopting a gender equity focus in career days, science fairs, competitions and information campaigns.* Career days should target girls, bringing in successful women across various disciplines as speakers, and counselors should be trained to encourage girls to explore fields in which they are underrepresented. Science fairs can actively reach out to girls, incorporating the work of female scientists and educators, and demonstrating the relevance of science to girls' lives and the importance of their participation.

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Encouraging collaborative engagement in science and expanding the kinds of programs offered is also important to make STEM interventions more inclusive. Competitions and quizzes, while appealing to audiences, are not the best means by which to encourage the participation of girls and other students who may lack confidence in science. Information campaigns should also be designed with girls in mind to address the cultural biases that affect girls' participation in science.

- *Including the primary school level in such activities as science fairs and extracurricular activities.* Given the evidence that interest in science is often sparked at this age and influences future participation, it would be a lost opportunity not to engage girls and boys in these activities. Information campaign strategies should also take into account the need to reach young audiences.

- *Ensuring that clinics, academic support and enrichment programs do not replicate the same gender inequitable practices as formal classrooms.* These learning opportunities outside the formal classroom should incorporate principles of collaborative and interactive learning that have been shown to enhance understanding, knowledge and engagement for girls and boys. They should also be used as spaces in which gender equitable teaching can be practiced and shared.

- *Targeting a broader population of girls.* Unless a purposeful approach is taken, the girls who will benefit from the existing STEM initiatives will be those who are already participating. While supporting this group is a valuable first step, more targeted efforts need to be made to reach a broader population of girls, particularly those from poor and rural households who are most marginalized.

- *Going beyond raising awareness to challenging gender biases and gender disparities in science education.* While awards and prizes have brought recognition to the achievements of females in science, and are very important, more needs to be done to critically examine inequitable practices in science classrooms and workplaces. Those women and girls who have succeeded in their science fields may be effective ambassadors for change.

- *Engaging professional societies and institutes.* There are a large number of professional institutes and associations in Nigeria related to science, including the Nigerian Society of Engineers and the Science Teachers Association of Nigeria, but there are also many others, such as the Nigerian Nurses Association, the Nigerian Institute of Science Laboratory Technology, the National Association of Nigeria Nurses and Midwives, and the Chemical Society of Nigeria. These groups may provide a ready group of volunteers and champions for initiatives that engage girls in science.

Women and Girls Helping Girls in Nigerian Science

Mentoring and role modeling are powerful, yet they are underutilized in Nigeria. Many researchers agree that these types of interventions are important for supporting female participation in science from the early grades and throughout a woman's career in the sciences.[107]

Role modeling can be a powerful strategy in both mitigating the effects of gender stereotyping of occupations and in increasing gender equality (box 8).[108]

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Mentoring is a powerful intervention strategy that can have positive cyclical benefits for all parties involved. Studies have shown that mentoring programs between secondary and primary schools can lead to improvements in students' academic performance, attitudes and self-confidence, while mentors also report learning from their mentees.[109] Secondary school aged girls who enjoy science subjects could serve as mentors for younger girls in primary school. Younger girls are likely to respond positively to slightly older peers to whom they look up. Similarly, female scientists could serve as mentors for girls of university age, who could serve as mentors for girls in secondary school. These layers of mentoring can benefit both the mentors, as they develop leadership skills and receive advice and encouragement, and the mentees, as they learn from someone who has faced similar obstacles relatively recently.

Strengthening Partnerships

Gender equity in science education requires greater attention, with respect to both global access and the learning agenda.[112] Promising programs need to be scaled up to reach a broader population of students. Attention also must be given across the lifetime of learning. If scientists are not born but made, increasing the number of women in science must be a long term process that requires early and sustained attention. To do so, there is much to be gained from strategic coordination and partnerships between international donors, private corporations, civil society and the government of Nigeria in implementing innovative programs.

Scientific and technological skills are of direct interest to many private corporations, which require a skilled labor force. There are examples throughout the world of STEM programs and of girls involved in science who are supported by the private sector. In Nigeria, as well, several initiatives have been undertaken in this area, but much more can be done to incorporate gender equity into the strategic focus of these programs (box 9).

There is also great potential for partnership with civil society organizations in support of girls' participation in science. The contribution of

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local organizations is vital in order to extend efforts beyond the school environment, and thus to involve parents and mobilize communities in challenging the prevalent cultural biases against girls. These efforts could include media campaigns (e.g., radio programs that incorporate stories with female role models) and cultural forums (e.g., theater and arts) to raise awareness about the importance of female participation in science. Community based science projects that highlight the relevance of science to local communities and programs that link schoolchildren with community members who are knowledgeable about indigenous scientific practices—including women—can also enhance science learning for girls and boys.

BOX 9. EXAMPLES OF DONOR AND PRIVATE CORPORATION INITIATIVES IN STEM EDUCATION IN NIGERIA

Here are several examples of important initiatives that have been introduced to facilitate girls' access to scientific and technological knowledge:

STEP-B Project: The World Bank-funded Science and Technology Education Post-Basic (STEP-B) Project distributed $200 million for science and technology projects in Nigeria between 2007 and 2013. The goal of the STEP-B Project was to improve federal post-basic science and technology education and to support the research subsector in Nigeria to produce more graduates and higher quality research. The project resulted in several improvements in science education at the beneficiary schools. Results include a 53 percent increase in the number of secondary school students to earn at least 5 credits in S&T subjects in national examinations and a 32 percent increase in the number of S&T graduates from post-basic institutions. However, results also show that boys benefited more from the project than girls, with a percentage increase in the enrolment of students in S&T programs of 59 percent for boys and 31 percent for girls.[113]

SEED: Schlumberger Excellence in Education Development (SEED) is an education program which seeks to ignite a passion for science in youth ages 10 to18 in underserved communities around the world. Funded by Schlumberger, a technology distributor for the oil and gas industry, SEED has initiated a variety of projects to enhance science education in countries where the company operates. In Nigeria, SEED has led dozens of training workshops and other events for teachers and volunteers and given financial and technical assistance to scores of schools throughout the country in order to improve internet connectivity. In 2009, SEED launched the One Laptop per Child project in four Nigerian schools. The SEED website also provides a number of interactive science resources, such as puzzles, stories, and games.[114]

SMASE Nigeria: Strengthening Mathematics and Science Education Project (SMASE) in Nigeria is a project implemented by the Japan International Cooperation Agency (JICA). SMASE aims to improve science and math education at the primary level by enhancing the skills of teachers and increasing the capability of students in these subjects. The project's implementation was designed to overcome specific challenges reported by stakeholders in Nigeria, including students' perception of difficult concepts in these subjects, monotonous use of lecture method, and inadequate teaching materials.[115] Between 2006 and 2012, SMASE led training seminars for over 11,500 primary school teachers, administrators, and policy makers involved in science and mathematics subjects.[116]

Exxon Mobil Education Initiatives: Mobil Producing Nigeria (MPN) has initiated several programs which aim to increase secondary students' interest and tertiary students' access to science education. MPN awards 500 undergraduate scholarships annually to students in Nigerian universities. Approximately 60 percent of the scholarships are awarded to students in the core disciplines of Engineering and Geosciences, and the remaining 40 percent are awarded to students in other approved business and social science related studies. The scholarships cover one year initially but are renewable based on academic performance. MPN also sponsors the National Quiz and Project Competition organized annually by the Science Teachers Association of Nigeria (STAN). MPN also sponsors a special Science Quiz Competition among 365 public and private secondary schools in Akwa Ibom State, which is then aired on the radio for six months.[117]

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CONCLUSION

FIGURE 1. RECOMMENDATIONS FOR ENHANCING GIRLS' PARTICIPATION IN SCIENCE IN NIGERIA

Many pressing issues confront education in Nigeria. The North of the country, in particular, lags behind in most indicators of access and retention, revealing serious challenges for the equitable provision of education for all. Nigeria has, however, over 20.5 million children enrolled in primary school and over 9 million enrolled in secondary school.[118] The quality of what these children learn is of great consequence and serves as a pull factor that will bring children to school and keep them in school. In particular, learning in science builds cognitive and noncognitive skills in students that are invaluable for both their individual lives and the development of society as a whole. However, science is the area with the greatest gender disparities in most African countries.

This paper has offered key recommendations at the level of policy and practice to improve gender equality in science education. A contribution of this paper has been to emphasize the importance of targeting girls at the primary school level, when fundamental knowledge and skills are being acquired, when interest can be most easily sparked, and when the greatest numbers of both boys and girls are in school. Recommendations that target use of data, teachers, classroom practice, STEM programs and partnerships can address many of the key barriers to girls' participation and success in science. These practical recommendations, which are summarized in figure 1, can lead to marked progress in engaging girls in science. And by confronting the issue of the science gender gap for girls, Nigeria can also improve the quality of learning and participation for boys.

Nigeria now has the opportunity to advance national development and social equality by taking action to increase girls' and women's participation in science and technology. By taking bold action, the country will demonstrate its commitment to learning across all subjects and to gender equality in all domains, and will set an example for countries across the region.

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At the Interface of Policy and Cultural Change

Engaging Communities in Support of Girls' Education in Malawi

Madalo Samati

The government of Malawi has over the past two decades demonstrated an increasingly strong commitment to expanding equitable access to education for all children and youth in Malawi. This has included the adoption of a range of policies and measures specifically targeting girls, particularly those in rural communities who continue to face acute disadvantages. Despite ongoing efforts, widespread gender disparities in education persist indicating that existing policies have been limited in their impact. This paper argues that a key factor influencing the impact of girls' education policies is the extent to which such policies, and the programming that supports them, address cultural dimensions of gender inequality in Malawi in their design and implementation. Gendered cultural constraints affecting girls' lives, which stem from dominant patriarchal beliefs and norms, act as significant barriers to girls' educational opportunities

and outcomes. Engaging communities in dialogue about such norms and practices and their effect on girls' education and development provides an opportunity for communities to act as agents of change.

In order to examine the interface of policy with cultural constraints, this paper uses Malawi's Readmission Policy as a lens into issues confronting girls' education policies in the country in general. Enacted in 1993, the Readmission Policy allows school-aged mothers in Malawi to resume their studies after giving birth, reversing the prior policy that banned such students from reenrolling. Although passing this important policy was a necessary condition for gender parity, it has been insufficient. In fact, many communities and schools still have not implemented the provisions in the policy and more recently issued government guidelines. In addition, many adolescent

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girls in Malawi fail to return to school for a variety of reasons that the policy does not adequately address.

The analysis of cultural constraints—at community, school and household levels—to the implementation of the Readmission Policy is used here as an entry point to discussing opportunities for advancing adolescent girls' education in Malawi more generally. This paper focuses on the importance of cultural constraints as a factor that affects adolescent girls and on the potential of community members to act as agents of change. While the focus of this paper is on social norms and practices prevalent in many communities in Malawi, it recognizes that culture, values, and social norms not only affect community members but all actors, including policymakers at national and global level (box 1). Moreover, culture is not inherently or uniformly negative or positive. It is a powerful and multifaceted force in human society that is subject to change and can be channeled in support of girls' education. How such change can be facilitated in the context of education policies and programming in Malawi and the implications of not doing so are central to this paper.

Building on Malawi's positive policy framework for girls' education and the significant legacy of past programs, this paper emphasizes the importance of a robust and inclusive vision for education that works at both policy and program levels and adequately addresses the cultural context. This paper argues that to better serve Malawi's girls key policy gaps must be addressed. This includes the need to build greater community ownership, to engage informal institutions and traditional authorities, to include girls' voices and facilitate empowerment, and to appropriately match resources with policy on girls' education.

In order to address these gaps, the Malawian Ministry of Education, Science and Technology needs to partner with civil society and funding partners to launch a new program, the Malawi Adolescent Girls' Learning Partnership (AGL), to confront the challenges facing adolescent girls' education, with a special focus on addressing harmful social norms. AGL emphasizes the need to focus attention on the issue of culture and the potential of community members as agents of change for girls' education and learning. AGL's six priority areas for action are:

1. Community based solutions to change cultural practices contributing to the exclusion of girls from school.

2. Engagement with traditional authorities to enact changes in support of girls' education.

3. Empowerment of girls and women through support networks and the development of key competencies to enhance individual and collective agency.

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4. Implementation of participatory monitoring and evaluation frameworks to track changes in cultural practice and girls' empowerment.

5. Long term commitment of resources by government and funders together with capacity building in support of organizations providing girls' education.

6. Improving girls' learning outcomes by further enhancing community involvement.

To make the case for this new program, this report reviews the education system in Malawi and the challenges faced by girls at upper primary and secondary level, including pregnancy. From there, the paper analyzes the Readmission Policy. This case study surfaces enduring lessons learned about what is needed in order to address deeply rooted cultural barriers to girls' education. These lessons learned are reflected in the recommended priority action areas of the Malawi Adolescent Girls' Learning Partnership (AGL).

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EDUCATION IN MALAWI

As a part of a commitment to achieving gender parity, the government of Malawi with the support of major funders has adopted a range of policies and programs designed to increase girls' access to school.[6] In 1994, the government introduced Free Primary Education (FPE) and eliminated the school uniform requirement, drastically reducing cost related barriers to education. Other programs and policies that have specifically aimed to promote gender parity include the Girls Attainment in Basic Literacy and Education (GABLE) program and the Readmission Policy, both of which were implemented in the early 1990s.

The current National Education Sector Plan includes various proactive, supply side measures, including upgrading school facilities, building hostels for girls in Community Secondary Day Schools (CDSS) to limit the distance they must travel, and instituting a 50:50 enrollment quota system for girls and boys in all government run CDSSs (table 1).[7] More recently, in February 2013, the Malawian Parliament passed the Gender Equality Law, which criminalizes harm-

TABLE 1. THE EDUCATION SYSTEM IN MALAWI

Primary (standard 1–8)	The official primary school entry age is six years. Since the introduction of free primary education in Malawi in 1994, public primary school is free of charge. According to the constitution primary school is compulsory, although there is no enforcement mechanism to ensure that all children are in school at primary level.
Primary examination	At the end of primary school, students take the Primary School Leaving Certificate Examination, which determines their eligibility for entry into secondary school.
Secondary (forms 1–4)	There are 1,015 secondary schools, 84 percent of which are public and 16 percent of which are privately owned. There are two categories of public secondary schools: Community Day Secondary Schools (CDSS), and Conventional Secondary Schools (CSS). Selection to CDSS is based on a 50:50 quota system for boys and girls. The schools are mostly located in rural areas and, given that they are highly subsidized by the government, students pay comparatively lower tuition to attend CDSS compared with CSS, although the tuition for CDSS and CSS are both prohibitive for many families in Malawi. CSS are owned by the government and/or religious institutions and exist only at the national or district levels. CSS have historically been of higher quality, for example in terms of classroom equipment and teacher qualifications, than most CDSS. Selection is based on merit, although limited boarding space for girls means that for every two boys selected, only one girl is admitted to CSS.
Secondary examination	Two years into their secondary studies, students take the national Junior Certificate of Secondary Education (JCE). Students that fail this exam do not continue on to form 3 (although some may elect to repeat form 2 and take the exam again). Students take a second examination, the Malawi School Certificate Examination (MSCE), two years later at the end of form 4. This exam determines whether or not they will receive their Secondary School Leaving Certificate and also if they are eligible to take examinations for further education.
Tertiary	Tertiary education is provided by a range of education institutions, including primary and secondary teacher training colleges, technical and vocational training schools and university colleges. University education is typically four years, although tertiary studies can range from two to five years, depending on the area of study. An MSCE certificate is required for university entrance, as well as for primary and secondary teacher training. Students can enter technical and vocational training with either a JCE or MSCE certificate.

Note: The formal education system in Malawi follows an 8–4–4 structure: eight years of primary, four years of secondary, and typically four years of tertiary-level education.

Sources: Malawi Ministry of Education, Science, and Technology (MOEST), *Education Statistics 2012* (Lilongwe: Education Management Information System, Department of Education Planning, 2013); SACMEQ, "Malawi: Education Fact Sheet," http://www.sacmeq.org/sacmeq-members/malawi/education-fact-sheet; Constitution of the Republic of Malawi, Chapter III, Section 13f ("Education"), ii.

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ful traditional practices and promotes equal access to education. The government has also demonstrated its commitment to prioritizing girls' education through the Millennium Development Goals Acceleration Framework for Gender Equality and Women's Empowerment in Malawi (MAF) (2013–15). The MAF aims to fast-track the achievement of lagging Millennium Development Goals (MDGs) by focusing on interventions for the girl child as a key entry point. The MAF outlines interventions to accelerate the achievement of MDG 3 ("Promote gender equality and empower women") by supporting the girl child in gaining life skills through education, access to sexual and reproductive health services and economic empowerment.

Despite these efforts, widespread gender disparities manifest at upper levels of primary (table 2). Female students drop out at higher rates and complete school at lower rates than their male counterparts. Malawi has achieved gender parity and almost universal enrollment in primary school (51 percent of all students who are enrolled in primary are girls versus 49 percent boys).[8] Yet, according to Education Management Information Systems (EMIS) data, girls' survival rate from the first to eighth grade of primary school is only 31 percent, compared to 45 percent for boys.[9] In 2010, gross enrollment for girls in secondary school was 17 percent compared to 22 percent for boys.[10] By the time students reach upper secondary (form 4), girls comprise approximately 42 percent of enrolled students while boys comprise 58 percent. This indicates a drop in the gender parity index (GPI) from 1.04 at the beginning of primary to 0.72 by upper secondary.[11] Older data from 2006 reveals that only 7 percent of girls complete upper secondary versus 15 percent of boys.[12] The cost

and limited provision of Community Day Secondary Schools and Conventional Secondary Schools are important barriers that keep both boys and girls out of school.[13]
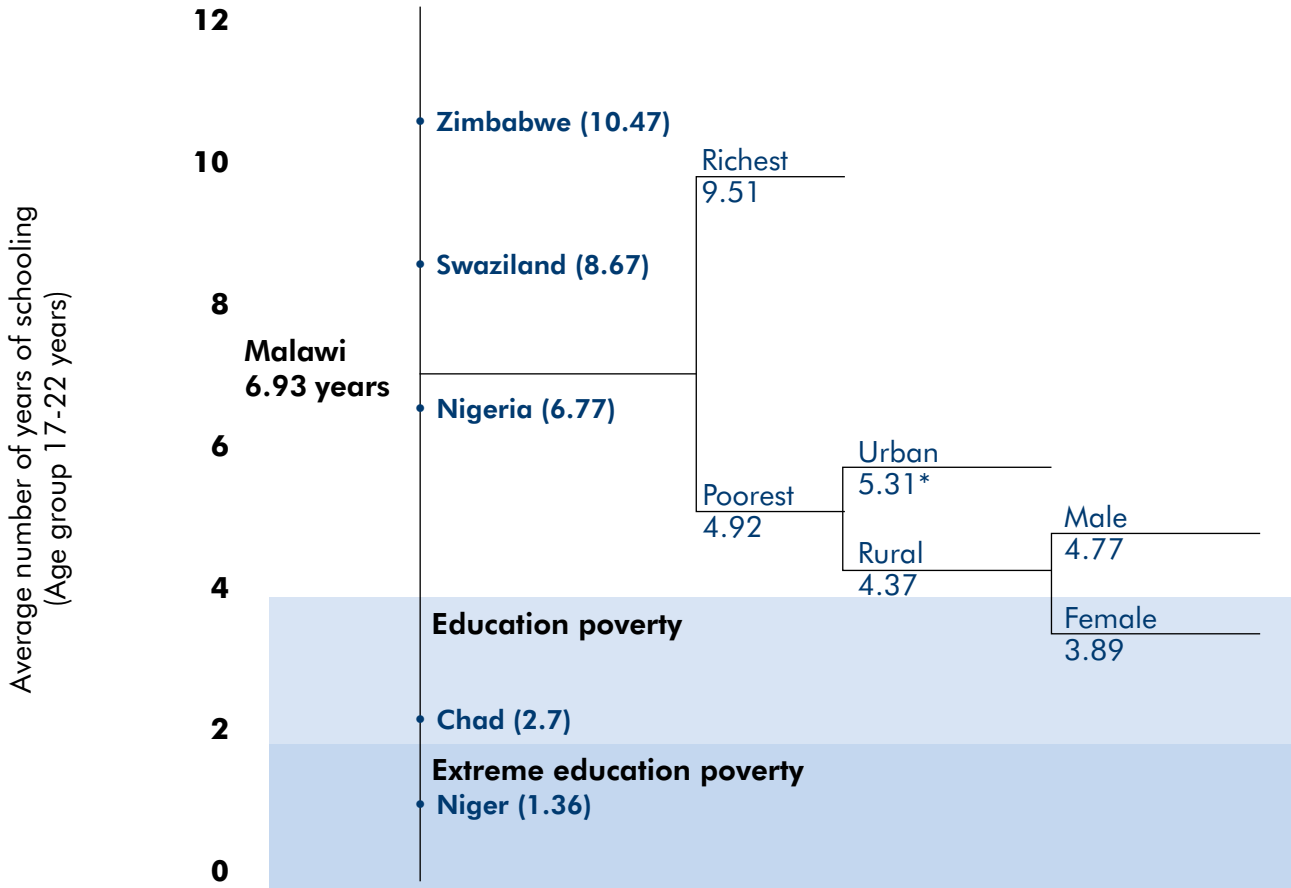
TABLE 2. SCHOOL ACCESS AND COMPLETION BY GENDER (PERCENT)

Measure	Girls	Boys
Access to primary (standard 1)	101	97
Primary completion (standard 8)	31	45
Access to lower secondary (forms 1–2)	22	30
Lower secondary completion	17	27
Access to upper secondary (forms 3–4)	10	22
Upper secondary completion	7	15

Sources: Malawi Ministry of Education, Science, and Technology (MOEST), *Education Statistics 2012* (Lilongwe: Education Management Information System, Department of Education Planning, 2013); World Bank, *The Education System in Malawi*, World Bank Working Paper 182 (Washington: World Bank, 2010).

Girls from rural and poor households face the greatest barriers to school access and retention (figure 1). Because 84 percent of Malawi's population lives in rural areas[14] and 50.7 percent of the population lives in poverty,[15] rural and poor girls constitute a significant portion of Malawi's school age population. Primary and secondary school data indicate that the children from the poorest households are underrepresented at the primary level and are close to absent at the secondary level. Primary school completion among rural students is 34 percentage points lower than those of urban students. Similarly, the completion rate for students in the poorest income quintile is 44 percentage points lower than the richest income quintile. This reflects the "triple handicap" of being poor, rural and female, which is the situation for the majority of women and girls in Malawi.[16] These overlapping forms of disadvantage impact educational attainment, as shown in the following graph.

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Data source: Global Monitoring Report World Inequality Database on Education.

Source: The World Inequalities
Database on Edducation. 2010 Data.

*Reflects average number of years of schooling for
urban poor. Data for urban poorest not available.

Not only are girls struggling to stay in school, they are struggling to learn while in school. Girls' pass rates are 13 digits lower than boys at the end of primary school.[17] This implies that fewer girls receive Primary School Leaving Certificates than boys and fewer girls are accepted to merit based, higher quality Conventional Second-ary Schools. The Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ) 2007 regional testing results reveal than learning is poor across the board but worse for girls. Only 22 percent of girls in grade six, for example, achieved basic competence in literacy, compared with 31.3 percent of boys.[18]

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MALAWI'S READMISSION POLICY

Since the early 1990s, the government of Malawi has worked to improve gender equality. Free Primary Education was passed in 1994, which marked a sea change in government policy and also in girls' access to education. A number of partners of the Ministry of Education, Science and Technology working in girls' education in the early 1990s recognized the need not just for programming for girls but also for a parallel policy response. One of the policies adopted during this period as a result of coordinated advocacy was the landmark Readmission Policy (box 2). This responded to the issue of pregnancy as a cause of girls' exclusion from school (box 3).

The Readmission Policy reversed the practice of expelling girls who became pregnant. This policy was adopted in 1993, during the time that FPE was being formulated. The policy came about as a result of civil society efforts and research on adolescent girls. GABLE project staff, Creative Associates International, Inc., and staff at Creative Associates (who later founded the Creative Centre for Community Mobilization) worked on social mobilization campaigns promoting girls' education in communities across Malawi in the early 1990s. They saw first-hand the problem of girls' dropping out of school due to pregnancy.

Some of the girls they reached through the mobilization campaigns were inspired to return to school but were not permitted to do so. These groups, together with the Forum for African Women Educationalists in Malawi (FAWEMA), advocated for a policy that would allow child mothers back into school. At the same time, in 1991 a Ministry of Health report brought attention to the increased number of girls dying due to unsafe abortions.[19] As a result of all these efforts, and based on her own inquiry into the matter, the minister of education put the policy in place, making Malawi one of the first African countries to officially allow school age mothers to return to school.

The analysis of the Readmission Policy provided in the next section highlights certain patriarchal cultural practices and beliefs that act as impediments to girls' education in Malawi today. Indeed, the need to address cultural constraints at the community level has been recognized by key actors working on girls' education in Malawi. The complementary programming in support of the Readmission Policy implemented under GABLE, however, was not enough and was not sustained for long enough to facilitate lasting change in cultural practices and was not sustained after 2002 when funding from the U.S. Agency for International Development (USAID) ended. The policy has therefore been limited in its effectiveness and impact.

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CULTURAL CONSTRAINTS TO GIRLS' EDUCATION IN THE CONTEXT OF THE READMISSION POLICY

The Readmission Policy aims to address the problem of girls dropping out of school due to pregnancy, which is in part a symptom of deeply rooted cultural discrimination against girls. Social norms that privilege males over females, along with cultural practices such as initiation ceremonies, powerfully shape girls' lives in Malawi.

It should be noted that such gendered cultural practices in Malawi have varied in prevalence, form and function over time. A historical contextualization that adequately accounts for the impact of the HIV/AIDS epidemic, the role of religion, growing economic inequality, and other broad influences in Malawi cannot be offered here. Neither is it being suggested that culture is inherently negative or something only "traditional" rural communities possess.

As described in the following sections, the culturally informed attitudes and actions of key actors, such as local community leaders and head teachers, influence how policy is received and implemented on the ground. Similarly, gendered cultural norms and values deter both households and girls themselves from seeking readmission. Furthermore the cultural constraints faced by girls are not restricted to the school. Girls are part of the broader community, and the cultural biases that impede their education cut across multiple sites. Therefore, this section examines the cultural constraints operating at the community, household and school levels that limit the implementation and potential impact of the Readmission Policy and other girls' education policies.

The Community Level

The tendency for community level cultural institutions in most rural areas[26] to inculcate a deep value for marriage and to encourage sexual activity at an early age pose a barrier to girls' re-enrollment in school after becoming pregnant.[27] Indeed, 20 percent of school age mothers in Malawi interviewed in a UNICEF study pointed to community pressure as an obstacle to their return to school.[28] A central paradox in the Malawian context is that patriarchal cultural beliefs and practices shape sexual behaviors and constructions of gender identity that often lead to pregnancies, while at the same time they contribute to the stigmatization of unmarried teenage mothers and their exclusion from school.[29]

The role of initiation in Malawi is a central aspect of many communities' culture, and in rural areas, a majority of girls undergo either traditional or church based initiation. This takes different forms but is basically a rite of passage that marks entry into adulthood, for either males or females. In the absence of formal educational institutions, initiations were historically meant to teach children life and survival skills, home and community care, sexual and reproductive health, and personal hygiene. However, during initiation girls are taught that their femininity is based on their sexuality and on their continuing to abide by patriarchal norms. They are prepared for marriage and are often initiated into sex by an older man or boy at the end of their initiation period, after which their chances of becoming pregnant and then dropping out of school are significant.[30] Christianity is also a strong influence in Malawi and churches offer a parallel initiation institution in many communities to the traditional one. While girls are instructed not to engage in sex

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outside of marriage in these church based initiations, they still receive strong messages about the subservient role of females in society.

While the age at which initiation takes place varies among different tribal groups within Malawi, overall the age has decreased over the years because of financial pressures on families that want to ensure the marriageability of their girls, and initiation counselors who receive remuneration for their services. The rise in the number of young girls (some as young as 8 or 10) undergoing the ceremony has increased the potential harm of this practice. Initiation counselors play a heavy role in gender scripting and are highly valued by Malawian society, given their perceived role in grooming girls into good wives, mothers and caretakers. Initiation institutions also involve mystery and recreation and thus appeal to youth and adults, a feature that creates an additional barrier to confronting the negative aspects of this practice. It is common for parents to willingly absent their children from school in order for them to attend initiation ceremonies (box 4).[31]

While cultural institutions encourage girls to have premarital sex, often with older men, a girl's reputation is nonetheless tarnished if the sex results in pregnancy but not marriage and she will likely be subject to ridicule and sexual harassment by male peers and adults.[32] If a girl becomes pregnant, whether as a result of an initiation ceremony or for any other reason, the dominant message she and her family receive is that marriage should occur immediately, taking precedence over school. If the girl does not marry, in addition to the stigma of being an unwed mother, it is generally believed that returning to school will increase the chances of her

> ## Box 4. Mary's Story
>
> The story of Mary, a 14 year old mother whose pregnancy resulted from her participation in initiation practices, is a common story of adolescent mothers in the southern part of Malawi. At a young age, Mary shouldered the responsibility of heading her family's household and taking care of her three siblings. Her father died when she was only a toddler, and her mother left their home to work at a tea estate. In Mary's village, girls traditionally undergo a first initiation ceremony, *chiputu*, before menstruation. After her first menstrual cycle, a girl participates in a second initiation, *chinamwali*. On both occasions, girls are instructed to have sex as a practice to sexually satisfy their future husband.
>
> "At the age of 10, I underwent *chiputu* initiation," Mary recounts. "Upon graduation, I was told to practice sexual intercourse. A boy from [a nearby household] approached me to have sex." Her first sexual experience did not result in pregnancy, as Mary had not yet reached sexual maturity. Mary continues:
>
> "When I reached puberty at the age of 13, I underwent *chinamwali* initiation. Upon graduation, the 22 girls being initiated and I were instructed to have sex. A fishmonger from the village approached me. Though he was old and married, I was not afraid because I had been instructed to accept any man that comes my way. I had sex with him twice. Later I realized that I was pregnant. When I told him that I was pregnant, he did not respond. My baby is now four months old, but [the father] has never provided any support."
>
> Within the two years of undergoing initiation ceremonies, over 70 percent of girls in Mary's village drop out of school due to pregnancy and marriage. Of the 23 girls in Mary's initiation camp, 61 percent became pregnant within two years. A total of five are now married, and nine have children out of wedlock.

falling pregnant again and reduce the possibilities for marriage even further.[33] It is notable that the category of unwed mothers in Malawi has grown significantly in numbers in recent years. In the past, it was much more likely that a man would marry the girl he impregnated. As men's

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marriage practices have changed, in part due to the HIV/AIDS epidemic and economic considerations, many more girls who become pregnant remain unmarried. Unmarried mothers lack social standing, suffer from stigma, and are still often unable to return to school.

In addition to initiation ceremonies, other cultural practices in local communities have an impact on the lives of adolescent girls and shape sexual behavior and feminine identity in detrimental ways. These include arranged (often early) marriages and dowry in the northern patrilineal areas, and sexual cleansing and wife inheritance or levirate marriages in some tribes.[34] Although these practices have historical justifications—for example, wife inheritance was designed to protect women and children from destitution after the death of the husband/father—they deepen gender stereotypes that portray girls and women as sexual objects and define their primary role as caretakers. Such stereotypes and beliefs discourage parents from allowing their daughters to continue with school after pregnancy.

The School Level

The school environment may play a role in both reinforcing the gender stereotypes found in the wider society and in socializing students through the informal rules and norms it upholds. Discriminatory attitudes and practices toward girls shown by teachers in the classroom, by school administrators, and by peers in the wider school environment have an adverse effect on girls' performance and participation in Malawi's schools.[35] Girls are often ridiculed and harassed by boys hindering their participation and learning.[36] Girls report that teachers often mock and insult them in class, especially as they reach puberty, making comments that are sexual

in nature about their appearance or age. For example, postpubescent girls unable to answer questions in class may be asked by a teacher questions such as: "What are you doing here, failing to learn? You are old enough now, why don't you just go and get married?"[37]

Inside schools, girls also experience abuse committed by both male students and teachers.[38] The International Center for Research on Women reports that 85 percent of interviewees in one community in Malawi believed that sexual abuse toward children, mostly girls, is common in and around schools, and that teachers are sometimes the perpetrators. Long distances to Community Day Secondary Schools render girls vulnerable to sexual harassment and assault when they are on their way to school and when they have to stay in rented accommodation closer to school.[39] There were no reporting mechanisms in schools or villages for any sort of gender based violence until recently, when mother groups were instituted in schools.[40] Where mother group institutions are well trained, girls more often report gender based violence. However, due to inadequate funding, only a minority of public schools—fewer than 30 percent—have trained mother groups.[41]

While there is often ignorance or ambivalence on the part of head teachers and teachers toward the Readmission Policy,[42] some are strongly opposed to it because they believe it would encourage promiscuity and immoral behavior.[43] Most schoolboys are not disciplined when they have impregnated a girl, and some teachers even sympathize with those male teachers who are dismissed for impregnating a girl, stating that just as the girl should be given another chance so should the teacher.[44] Though fe-

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male teachers can potentially serve as role models and counselors to girls, they generally do not take on this role and may instead act aloof or unsympathetic to girls. In part because gender based discrimination is not regulated, whether or not girls and child mothers are supported and encouraged varies a great deal depending on the head teacher at a school (box 5).

> **BOX 5. THE IMPACT OF HEAD TEACHERS**
>
> Whether or not a head teacher advocates for a girl has a significant impact on the ability of that girl to reenroll and remain in school after childbirth. The support system for school age mothers is not institutionalized but is rather dependent on the whims of school leaders, who have different views and approaches when addressing pregnancy and readmission. For example, in one school, a girl was six months pregnant when she sat for her Primary School Leaving Certificate and delivered right when the results were published. The primary school head teacher contacted the secondary school to which the girl was selected and asked for her place to be reserved until she could enroll the following year, which she successfully did. At another school, however, the head teacher was unsympathetic to the difficulties facing school age mothers and prevented a mother enrolled in the school from nursing her baby on school grounds because doing so would have "a bad influence" on other girls.[45]

The Household Level

Household and family level attitudes about the value of female education have significantly influenced the implementation of the Readmission Policy. A 2000 UNICEF study reports that over 50 percent of teen mothers interviewed a year after dropping out of school were not allowed by their parents to go back to school and many of them were forced instead to marry. While in some rural families, girls' pregnancy is viewed as a source of pride—especially for mothers, because it reflects the maturity of their daughters and increases their

standing in the community—girls can also face harsh criticism from parents and guardians for becoming pregnant.[46] Parents may feel the money spent on sending their daughter to school has been wasted if she becomes pregnant.[47] Girls may find they have little support in terms of child care from parents if they wish to return to school, either preventing their return or leading to them drop out when it becomes too much to manage both schoolwork and caring for a young child. Given that there is no state support for child care and mothers are typically expected to take care of children, often with little or no support from the child's father, the only option for most girls is to turn to their families to provide support (box 6).[48] This situation is one which clearly demonstrates the intimate link between cultural and structural constraints in girls' lives.

> **BOX 6. RETURNING STUDENTS STRUGGLE TO FIND CHILD CARE: ONE MOTHER'S EXPERIENCE**
>
> "I was eight months pregnant when my mother realized what had happened. I was totally rejected by my mother and sisters. They were disgusted and could not believe what I had done. I had no reason to become pregnant. … I struggled to go back to school because my mother refused to help with the baby. I was determined and went to the division office to be readmitted. With the assistance of an elderly lady who looked after my baby, I went back to school. It was only after I passed the Junior Certificate Exams that my mother slowly began to assist me."[49]

Given the burden that a child places on household resources, allowing a teenage mother to return to school requires conviction about the value of educating girls. However, parents often prioritize investment in the education of their sons over that of their daughters.[50] When a girl becomes a mother, the purpose of her being educated is brought even more into question. Such preferences are rooted in gendered norms

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and stereotypes that emphasize females' roles as wives and mothers. Some parents maintain that school is for young girls and that after the age of 13 their breasts begin to grow and they are old enough to get married. By contrast, boys are encouraged to receive an education as they are the future providers for their families. It is also widely believed that boys are smarter and stronger than girls and can therefore persevere in the long years of schooling.[51]

As a result of these definitions of masculinity and femininity, pregnancy is generally seen as a girl's "problem." While a pregnant girl stays home waiting for delivery and marriage, the boy is in practice often able to return to school because he has not been identified as the father or because he faces far fewer repercussions and challenges than his female counterpart in returning to school after a suspension.[52] In many cases, the father of the child is older and is not in school. Girls more often lack control over their lives and their future, which are instead dictated by their elders, parents and husbands. This structural position of subordination and vulnerability is reflected in and deepened by sexual violence.[53] The cultural practices described here lead to high levels of forced sexual encounters,[54] which in itself is hugely detrimental to girls' well being, but then the stigma for these encounters is also placed on the girls.

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GABLE'S SOCIAL MOBILIZATION CAMPAIGNS

As described in the previous sections, the Re-admission Policy came into effect because of coordinated government, civil society and funder support. At the time, there was also programming that recognized the vital importance of addressing cultural constraints and mobilizing communities in support of girls' education. Key among these efforts were the GABLE program and its social mobilization campaigns (box 7).

BOX 7. THE GABLE PROGRAM, 1991-2002: A HOLISTIC APPROACH TO GIRLS' EDUCATION

The Girls' Attainment in Basic Literacy and Education (GABLE) program aimed at improving girls' learning outcomes by removing system inefficiencies. Jointly funded by the government of Malawi and USAID with a budget of $82 million,[55] GABLE's combination of policy initiatives, project activities at the school and classroom level, and social mobilization contributed to its success. GABLE, which has been cited as "one of USAID's most successful projects," helped set the impetus for successful girls' education programming in Malawi.[56]

The key tenets of the GABLE approach include: an emphasis on community participation; the development of local and international partnerships for girls' education; the implementation and continuous review of system wide reforms; and a reduction of the private costs of schooling. These tenets are all critical and set the stage for future programming for adolescent girls in Malawi. GABLE's main areas of activity were:

- *Reducing cost of schooling for girls* through scholarships for secondary school girls from poor families and the abolition of compulsory school uniforms.

- *Policy reforms aimed at increasing girls' survival in and completion of school.* A component of the GABLE program worked with the Malawi Ministry of Education, Science and Technology (MOEST) on policy reforms; including: the Re-admission Policy and the School Repetition Policy, that allowed girls to repeat years of schooling without being forced to drop out, and by reinforcing the importance of all children entering primary school at six years of age.

- *Reducing gender bias in schools* by providing a gender appropriate curriculum, spearheaded by the Malawi Institute of Education (MIE), gender balanced community schools, and gender mainstreaming in mathematics lessons in coeducational primary schools. There have been "mixed results from these initiatives" as school related, gender based violence has remained prevalent and girls' learning outcomes are below their male counterparts, pointing to continuing challenges in the learning environment.[57]

- *Increased infrastructure and budgetary support* to the sector overall and for the construction of classrooms, teacher training and learning materials. As a result of the launch of GABLE and the implementation of Free Primary Education, budgetary allocations to primary education and to the education sector overall increased, although the construction of classrooms and teachers' houses and the number of trained teachers did not keep pace with increasing enrollments.

- *Social mobilization campaigns* addressing attitudes that placed a low value on girls' education. Using action research and theater for development, GABLE sensitized communities to identify constraints on girls' education and mobilized communities to find solutions. Participatory meetings and community based workshops were held with community members and community leaders like village heads, school management committees, and initiation counselors to map a way forward for girls' education and to develop community action plans. Female role models were also identified and utilized to inspire girls for education.

The MDGs Acceleration Framework notes that GABLE's results were impressive, initially raising girls' enrollment as a proportion of total primary enrollments from 45 percent in 1990 to 48 percent in 1993–94, and again to 49.8 percent in 2000[58] (the launch of Free Primary Education in 1994 likewise influenced increased enrollment). Most notably, girls' enrollment as a proportion of standard 8 enrollments increased from 36 percent in 1991, to 39 percent in 1996,[59] and again to about 40 percent in 2000[60]—a considerable achievement in a context where girls often leave school before completing early grades.

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The GABLE Social Mobilization Campaign, together with the Forum for African Women Educationalists in Malawi (FAWEMA) initiated a campaign shortly after the Readmission Policy was adopted to raise public awareness about the policy's provisions. The campaign included radio announcements about the policy, community meetings that used theater in each district, and a series of meetings with district education officers and primary education advisers in half the districts. At the heart of these efforts was the message that all girls, even those who were pregnant or new mothers, should go to school.[61]

These efforts, together with those that led to the adoption of the policy in the first place, were extremely important. Despite its promising results and the recognition that further work is needed to solidify gains for gender equity, GABLE came to an end in 2002. The program was funded by USAID for over a decade but when the project cycle ended USAID shifted funding toward teachers, the government of Malawi could not sustain the work. This left a vacuum in community mobilization for girls' rights, which was filled by local organizations, including the Creative Centre for Community Mobilization (CRECCOM), although at a much smaller scope given the scarcity of funding.

During the time that GABLE was implemented, the community mobilization work was an important aspect, but it was only one of five components of the program and did not go far enough to tackle initiation and other harmful sexual practices and dominant patriarchal norms. GABLE did not systematically engage traditional authorities and community members in critical examination of these practices. Ongoing sustained capacity building also proved difficult. When individuals trained to carry out community mobilization work completed their service period, those who took their place lacked adequate training to sustain activities. The awareness campaign related to the Readmission Policy lasted for one year in each district which was not long enough. While the radio campaign took place for the duration of GABLE's eight years, it did not include details about the policy guidelines because they had not yet been issued.

Cultural constraints to girls' education in Malawi continue to stymie the implementation of the Readmission Policy and reveal gaps in its design. The next sections highlight key lessons learned about these gaps and what is needed to expand girls' learning opportunities and outcomes in Malawi.

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THE NEED TO BUILD GREATER COMMUNITY OWNERSHIP

The Readmission Policy was created when Malawi's education minister at the time circulated a memo stating that girls would be readmitted after child birth. There was no attempt to invite discussion with traditional leaders or at district or school leadership level before making this policy or to promote ownership over the policy through dialogue. Now, after the almost 20 years since the policy has come into effect, many parents, students and teachers are still not aware that the policy exists; and among those who are aware, there remains confusion about its stipulations.[62] However, the issue of community ownership goes much deeper than basic awareness. Despite the sensitive nature of the policy, actors have not been given adequate opportunity to voice their concerns about it. This has led to the perception that the policy is imposed from above.[63] Some religious agencies, teachers and school administrators have tended to see the policy as promoting immorality in schools.[64] Because it is not punitive in nature, it is perceived by some to be condoning pregnancy outside wedlock and therefore is seen as a threat to the social institution of marriage.

The policy also suffers from a lack of ownership at the district level. While progress has been made toward devolving the National Education Sector Plan into district education plans and school improvement plans, girls' education—and, by extension, the Readmission Policy—is rarely addressed in the district planning process. Furthermore since the inception of policies to decentralize the administration of education in Malawi in 1998, little attention has been given to developing structures for girls' education at the grassroots level (e.g., area development committees, area executive committees and village development committees). As a result, these governing institutions at the community level have not prioritized the delivery of quality education for girls and these institutions have not grappled with the implementation of the readmission policy.

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THE NEED TO ENGAGE INFORMAL INSTITUTIONS AND TRADITIONAL AUTHORITIES

The GABLE program made efforts to engage informal cultural institutions and the traditional authorities—that is, tribal chiefs and village heads—with the Readmission Policy and girls' right to education. However, given the limitations of programming and ending of funding for community mobilization discussed above, many traditional institutions remain unsupportive due to the unchanged attitudes of cultural duty bearers, such as initiation counselors and traditional authorities.[65] Initiation counselors, for example, see their role as upholding traditional culture, and many of them fear offending the spirit of their forebears if they fail in their duties. Some worry that the traditional information taught during initiation ceremonies becomes too diluted if sexual teachings are moderated.[66] Initiation counselors also receive material benefit from their activities as payment in the form of money for each initiate. While initiation institutions can be nurtured to positively support girls' education by utilizing their power, appeal and dynamism, they currently act as a hindrance to girls' remaining in school.[67]

As custodians of cultural institutions, the traditional authorities are particularly influential players in perpetuating those practices, beliefs and customs that curb girls' educational attainment. Chiefs are highly respected and very powerful, with a number of village heads reporting to them. They govern through unwritten rules and have great influence on their subjects, including girls, as custodians of culture. Chiefs and village heads also enjoy a number of benefits from practices that perpetrate pregnancies among school age girls. They receive cash and in-kind incentives from rites of passage such as marriages and initiation ceremonies; and a chief's seniority is determined by his villages' population size, which further encourages marriages and pregnancies among girls. In some areas, visiting chiefs are given a girl overnight (known as the "chief's blanket").

Efforts to work with chiefs have not systematically addressed early marriage and pregnancy or engaged the traditional authorities in a sustained manner. The concerns and interests of chiefs, like those of initiation counselors, need to be addressed if their powerful agency is to be directed toward genuine support of girls' education. Because chiefs and village heads are key to effective implementation of reforms, greater alignment is needed between incentives for traditional authorities and the interests of girls, which requires bringing more attention and voice to girls' issues and greater accountability for traditional leaders' actions.[68]

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THE NEED TO INCLUDE GIRLS' VOICES AND FACILITATE EMPOWERMENT

A mechanism does not exist for the concerns and voices of girls to be heard with respect to the Readmission Policy. Teenage mothers are the primary focus of the policy but the realities of their lives, the specific challenges they face, and what works and does not work for them are not adequately incorporated in the design or implementation of the policy.

Moreover, given the cultural barriers adolescent girls face, particularly as young mothers, a great deal rides on their conviction and exercise of agency to pursue an education. Yet, the Readmission Policy stands in isolation from efforts to empower girls to resist prevalent practices or to help them persist in their efforts to return to school. The limited provisions in the policy for counseling are rarely fulfilled and girls are often left without knowledge of alternatives or the support they need to pursue them.[69] Many girls make choices about sex and marriage from vulnerable or subordinate positions. Girls' attitudes toward sex and sexuality, and their access to knowledge and resources on issues such as reproductive health require far greater attention than they have been given to date.

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THE NEED FOR EFFECTIVE IMPLEMENTATION PLANS AND MONITORING AND EVALUATION

The Readmission Policy has also faced a number of obstacles arising from a lack of institutional coordination at all levels. For example, the absence of an implementation plan and a lack of necessary resources, leadership, planning, and monitoring and feedback mechanism hindered the policy's effective implementation in the early stages.[70] The only specifically established policy in place in 1994, was a single written memorandum to all district education offices. Guidelines as to how the policy was to be implemented, particularly at the school level, were not issued until 2006.[71] The lack of a well defined plan for execution and coordination continues to pose huge problems.

Despite a well set up administrative system, teachers point to a lack of institutional support for policy implementation as a major challenge.[72] Teachers likewise have not been sensitized to the rationale for the policy, nor have they received training on psychosocial counseling, which has left them ill prepared to cater to the particular needs of young mothers who reenter school.[73] Finally, teacher training colleges do not teach education policies, leaving many educators unfamiliar with the Readmission Policy.

The MOEST lacks strong leaderships related to gender policy and a girls' education plan. Gender expertise is required to articulate and coordinate gender policy and programming in all education departments and at all levels (ministry, district, zone and school). Development of this gender expertise was an aspect of the GABLE program but the more recent push toward gender mainstreaming has actually led to less of a gender focus in the MOEST rather than more.

A weak monitoring and evaluation system has given rise to incomplete data on why girls withdraw, which district education managers should be responsible for collecting. Instead, these managers are often not aware of the Readmission Policy and they do not have mechanisms for following up with girls. Similarly, a mechanism does not exist for tracking girls within the education system if they change schools and in their transition from primary to secondary school. The lack of proper monitoring and data collection also make it difficult to know how teenage mothers who are readmitted to school fare upon their return and to what level they are able to complete their studies.

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THE NEED FOR RESOURCES TO SUPPORT POLICY

At the household level, the financial burdens associated with pregnancy and parenting are a formidable barrier to girls' education and unfortunately these burdens are not addressed by the Readmission Policy. In Malawi, 50.7 percent of the population lives in poverty.[74] Gender and age play significant roles in determining decisions about investments in a child's education and access to household resources.[75] The indirect and direct costs of schooling for households—such as clothing, food at home and at school, and increased demand for girls' labor—are major contributors to girls' dropping out.[76] The majority of parents and guardians do not undertake income generating activities, apart from peasant farming, and they are generally more willing to invest in their sons' education than their daughters'.[77] For these reasons, many girls who become pregnant while in school are forced to marry and forgo their education, as the financial burden increases with her baby.[78] The Readmission Policy, however, was not implemented with any provisions to address the financial burden that hinders so many girls from returning to school.

Financial and human resource constraints at the district and school levels in Malawi limit effective policy implementation. Each school receives $1,600 annually as direct support to the school and school level improvement plans to address the National Education Sector Plan goals. This is a positive move toward decentralization but is still vastly insufficient. These limited resources are insufficient to meet basic infrastructure demands, much less provide the training to crit-

ical groups on the readmission of school age mothers. Except for funding from Canada's Department for Foreign Affairs, Trade, and Development, there has been no budget allocated to orienting district education officers and primary education advisers on the Readmission Policy's procedures.

Limited resources in schools also means that counseling and psychosocial support are almost nonexistent, although the guidelines to the Readmission Policy state that this support should be made available to student parents. At present, there are few female teachers or trained female counselors in rural schools who can competently counsel teen mothers. Similarly, no link exists between schools and health centers or health surveillance assistants that can support school-age mothers' health needs. The need for fuller support and connections among social services for marginalized children have been discussed, often in relation to orphans and vulnerable children,[79] but such approaches require additional resources to be instituted.

This analysis of the Readmission Policy has served as a lens into the barriers to girls' education in Malawi more generally. It has highlighted the need to address harmful attitudes and cultural practices that impede girls' inclusion in school and to better align resources in support of policy implementation. In this regard, policymakers should consider the important role of civil society organizations in addressing ritually transmitted definitions of masculinity and femininity through culturally relevant, participatory methodologies and capacity building that promotes community led dialogue. This is at the heart of the proposal that follows.

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A NEW WAY FORWARD: THE MALAWI ADOLESCENT GIRLS' LEARNING PARTNERSHIP (AGL)

Malawi benefits from a positive policy framework for addressing girls' education as well as a legacy of promoting gender equality through comprehensive programming. The GABLE program succeeded in increasing girls' rates of enrollment in Malawi by addressing multiple barriers to girls' education and initiating important work in mobilizing communities in support of this aim. A valuable opportunity exists to build on this legacy and chart a new way forward to expand adolescent girls' access to and quality of education in Malawi. This paper proposes the launch of a new program, the Malawi Adolescent Girls' Learning Partnership (AGL), with the objective of addressing cultural constraints to girls' education as a central organizing strategy of work on girls' education.

Communities themselves can and should be activated to promote girls' education, as they have the potential to both shape cultural practices and to support and empower girls and boys. Although cultural practices and harmful gender norms are not the only barriers to girls' education and learning, they are important and must be addressed along with other interventions that are known to be critical for all children. This work requires strong and sustained commitment from the government, funding partners and civil society.

The AGL program would include the following features:

1. Community based solutions to change harmful cultural practices that result in adolescent girls' exclusion from school.

2. Engagement with traditional authorities to enact changes in support of girls' education.

3. Empowerment of girls and women through support networks, mentoring programs and opportunities to develop competencies key to enhancing individual agency and collective action.

4. Implementation of participatory monitoring and evaluation frameworks that also track cultural practices and empowerment indicators to better inform educational policies and programs.

5. Long term commitment of resources by the government and donors and the building of local economic capacity in support of girls' education.

6. Going beyond access to address factors that affect girls' learning through greater community involvement.

The rationale behind the program is to activate communities as partners to promote girls' education and learning, while also empowering girls as agents of change within communities, which will provide a critical force and platform to support other critical interventions for girls. The importance of squarely addressing cultural practices at the community level has thus far been inadequately attended to, given the impact on girls' education, and given the potential for change. Figure 2 shows how a focus at community level supports other reforms and the ultimate goal of girls' learning.

Addressing communities and girls as agents of change will promote a platform for other critical education policies and programs, ranging from bursaries for girls at secondary school level to

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building more secondary schools, curriculum reviews and gender-sensitive teacher education. While the implementation focus of AGL is on community engagement to address cultural constraints, this paper also recognizes the need to address economic, political and environmental barriers to girls' education and to support and coordinate with a cross-sector approach to girls' education.

FIGURE 2: MOBILIZING CHANGE AT COMMUNITY LEVEL

Monitoring learning outcomes

Addressing structural barriers and quality

Mobilizing communities and girls
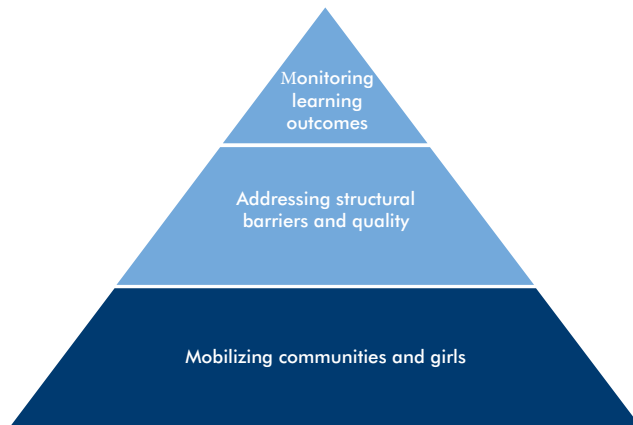
AGL PRIORITY ACTIONS

For each of the lessons highlighted in the analysis of the Readmission Policy, a priority action for AGL is suggested (table 3). These priority actions build on the experiences of GABLE, CRECCOM and other actors working on girls' education at the community level. A key principle of this work is that communities themselves can be activated to be effective partners in this work, thereby offering a sustainable mechanism to promote girls' education and learning.

Priority Action #1: Introduction of Village Change Agents and Village Forums in Every Village throughout the Country

This priority action addresses two gaps in the implementation of the Readmission Policy and

in girls' education policies more generally: (1) the need to build local capacity to critically examine cultural practices and values that impede girls' access to education and learning; and (2) the need to develop community based solutions and ownership.

If measures like the Readmission Policy are to have substantial and sustained reach, parents, guardians and community members must be mobilized in support of the policy and of girls' education overall. Engaging parents and guardians in questioning gender norms and the dominant societal constructions of masculinity and femininity is vital to influencing household decision making and gendered patterns of socialization. In the few communities where civil society groups have introduced village forums and change agents, they have proven to be an effective means to ensure sustainable local agency and leadership at the village level (see box 8 for an example).[80]

Village change agents are individuals selected by the residents of their locality to facilitate community led dialogues on a regular basis through the establishment of village forums. Village forums provide an opportunity for community members to examine their cultural values and practices through a process of problem identification, reflection and analysis, and to find solutions to longstanding educational challenges without external direction. This is also a means by which to reach the household level. These forums also allow for information about existing policies and resources to be shared and discussed in relation to the local context.

Village change agents are trained to work in collaboration with adults and youth in the

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TABLE 3. AGL PRIORITIES TO ADDRESS CULTURAL CONSTRAINTS

Lesson Learned	Recommendation
Main lesson: There is a need to address the cultural practices and beliefs that impede girls from accessing school and improving learning.	
Need to build community ownership and local capacity to critically examine cultural practices	Village change agents and village forums
Need to engage informal institutions and the traditional authorities	Linking village forums with local governance structures and schools
Need to empower girls	Girls' empowerment programs that support development of personal and social competencies, as well as self-efficacy and other noncognitive skills, through such initiatives as girls' clubs, role modeling and mentoring
Need for monitoring and evaluation	Participatory, gender sensitive, monitoring and evaluation that include indicators of girls' empowerment
Need for resource allocation	Long term commitment of resources, more effective linkages to existing resources, and building of local economic capacity with particular attention to the economic empowerment of women

BOX 8. COMMUNITY ACTIVITY IN HARMONIZING THE CULTURE AND RIGHTS OF WOMEN AND GIRLS: THE ELIMINATION OF THE *CHIPUTU* INITIATION RITE FOR GIRLS IN SUB-TRADITIONAL AUTHORITY KHWETHEMULE, THYOLO DISTRICT

Since 2008, CRECCOM has supported 120 communities in five traditional authorities in Thyolo District working toward gender equality. The program aims at transforming attitudes toward women's and girls' sexual and reproductive, education and economic rights. As a result of CRECCOM's efforts, there is now momentum in these communities to address harmful sociocultural factors, by modifying and in some cases eliminating such factors.

Village change agents and village forums are the hub of community led systemic change, which has resulted in the elimination of the *chiputu* girls' initiation rite in the Khwethemule area in Malawi's southern region. *Chiputu* is an initiation rite in which girls are encouraged at a very young age (8 to 12 years) to engage in sex. Mary, whose story was introduced at the beginning of this paper, is from the Khwethemule area.

The steps that led to the elimination of *chiputu* went as follows. Regular meetings targeting women, men and youth, including initiation counselors, were conducted with the support of the village head. After reviewing the initiation rites being practiced in their area, village forums in Khwethemule agreed to eliminate the *chiputu* rite for preadolescent girls (8 to 12 year olds), as it was considered greatly detrimental to a girl's life. Village change agents approached the traditional authority, who called all village heads in the area to a meeting and who agreed to act on the community's request to eliminate the practice. The elimination of *chiputu* has saved thousands of girls in the area from HIV, unwanted pregnancies and dropping out of school.

While the bylaws prohibiting the practice of *chiputu* came too late for Mary, the village change agents' efforts have resulted in a promising future for her and some of her peers. Eighteen of the 23 girls in her initiation group are now in school, after being encouraged to return by village change agents. Aside from encouraging the girls, village change agents have also asked parents and relatives to support the girls' education and to take care of their children when the young mothers are in school. Mary is now back in school, and a relative cares for her child during school hours. She is in standard 8. The village change agents continue to monitor Mary's progress.

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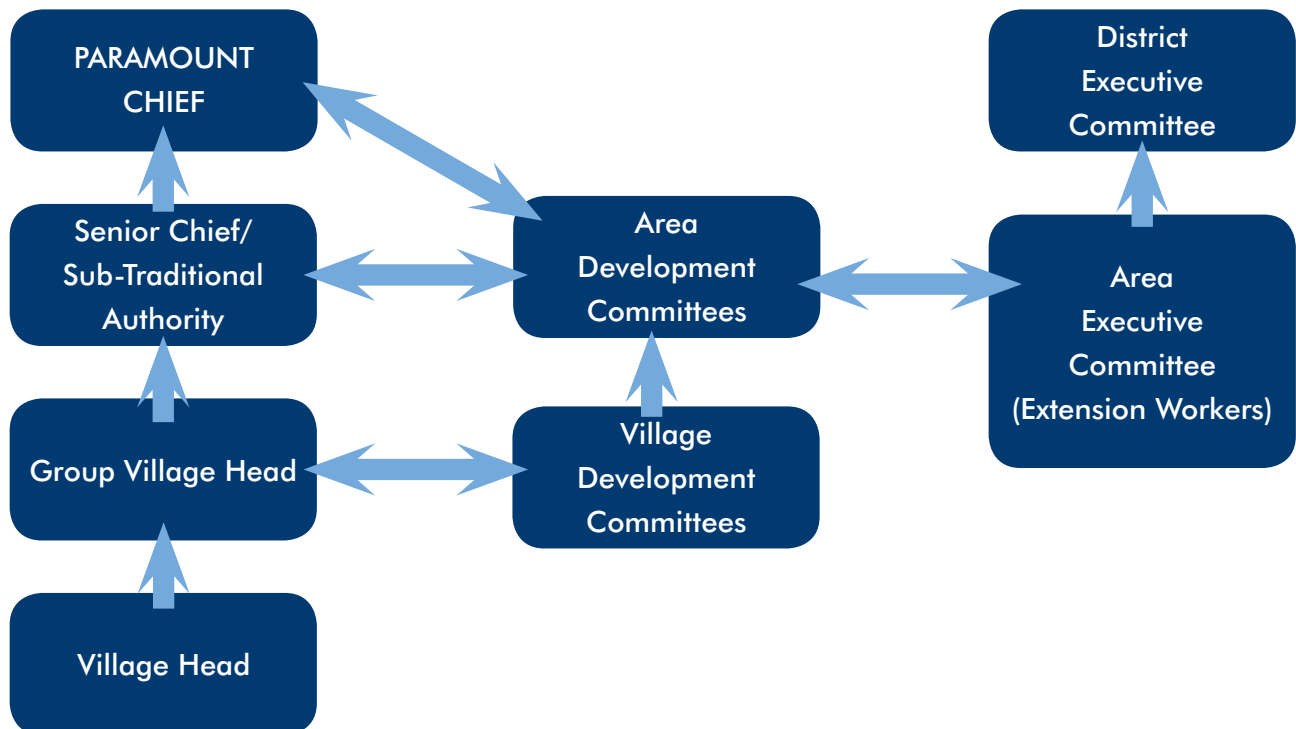Center for Universal Education
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community, as well as village heads, chiefs and other cultural duty bearers and government officers. The process of community deliberation and dialogue in village forums is an empowering one, as villagers are free to raise issues, debate them and influence their own change. The forums also serve to support linkages with the government and other service providers and to aid in developing economic empowerment activities that incentivize participation, and they can be structured to include internal progress review and follow-up mechanisms that ensure the implementation of action points. The village forum and change agents approach facilitates the infiltration of the value of girls' education into the cultural system and community structures such as chieftaincy, initiation institutions, and household gender dynamics through community deliberations. Forums at the community level also increase the possibility of commitment to carry out plans.

Priority Action #2: Partnership with Village Forums: Traditional Authorities, Government, and Schools

Traditional leaders' responsiveness to community demands should be enhanced by strengthening the link between village forums and the traditional authorities (village heads and chiefs). This is an important means by which to engage these institutions and exert pressure on them to pass bylaws that are in harmony with the national education laws and policies. And in this way, the accountability of traditional leaders is also strengthened.

Linkages with local government are equally important for village forums to meet their full potential as catalysts for cultural change and effective policy implementation. Strong relationships between village forums and grassroots level government extension services and district executive committees allow for the provision of the technical support (e.g. information about existing

FIGURE 3: LOCAL LEADERSHIP IN MALAWI

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policies and guidelines, assistance with linking to other services such as health services) needed by villagers in their quest to adjust cultural practices. The involvement of an existing government structure at the grassroots level—extension workers—also offers an immediate tie between the community and the government, and enhances buy-in from the traditional authorities in addressing harmful sociocultural factors (figure 3). Therefore, accountability and incentives systems must be developed in order to enable sustainable commitment from government structures.

Village forums and change agents also serve to strengthen relationships between communities and schools, and to enhance two-way communication on policy and practice. Education policy discussions in village forums can be linked to schools through school management committees (SMC), parent teacher associations, and mother group members who are participants of the forums. While teachers generally do not participate in village forums (as they are often not local residents of the village), they are able to provide technical knowledge about policy guidelines and school practice. Village forums and change agents play a crucial role in policy debate and feedback, and ensure greater participation in the development of policies from the start. Village forums also support policy implementation, for example, by following up on girls who may be at risk of dropping out, counseling pregnant girls and parents, and ensuring that girls receive the support to return to school from their relatives. Village forums' active communication with parents and teachers also help to monitor and address gender based violence experienced by girls at school and at home, as well as help ensure that the practical needs of teen mothers are met.

Priority Action #3: Facilitating Girls' Empowerment and Channeling Women's Agency

Girls should be active participants of their own change. This is key to achieving gender equality in education, because girls themselves must confront harmful gender scripting and challenge traditional practices in their lives. Cultivating girls' agency also encourages their involvement in decision making on issues that affect their lives and society. This is possible when relevant and empowering approaches are deployed that intrinsically motivate girls toward education, and when learning includes the development of cognitive and noncognitive competencies needed to advance gender equality and improve life outcomes for girls (box 9).

> ### Box 9. Girls' Learning and Empowerment
> Murphy-Graham defines empowerment as a process of recognition, capacity building and action that allows individuals to recognize their inherent worth, the fundamental equality of all human beings and their ability to contribute to personal and social betterment. Through empowerment individuals, "develop the capacity to critically examine their lives and broader society and take action toward personal and social transformation."[81] Lloyd builds on this conceptual framework and provides a typology that includes core educational, social, personal and economic competencies.[82]

Establishing girls' education networks and forums at the grassroots level, both within and outside of schools, is one strategy for harnessing girls' agency. Also, adult women can be strong and effective supporters, advocates and mentors for girls. Hence, the government and its partners should give adequate capacity to the school mother group initiatives in order to strengthen their functioning. Mother groups influence girls and other parents with respect to

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regular school attendance, retention and read-mission. At the school level, mother groups advocate for sanitary facilities, gender based violence reporting, and the provision of child care. Mentoring relationships (for example, inside the school between girls of different age groups and between female teachers/mother groups and girls) that increase access to information, skills and resources (such as sexual and reproductive health education and career guidance) and that enable girls to make strategic choices should be enhanced in schools to empower girls.

Priority Action #4: The Development of a Participatory Monitoring and Evaluation Plan

There is a need for a robust gender sensitive monitoring and evaluation framework that standardizes evidence based on comprehensive indicators, involves community members, and uses the data collected to inform and provide feedback to improve education policy and programs. Participatory monitoring and evaluation guarantees a feedback loop between community members and educators, and promotes policy ownership by implementers at the grassroots level. Evaluating policy outcomes and impact in both the short and long terms that translate into girls' well being implies the use of indicators that measure girls' empowerment and empowered choices. Such indicators may include how a girl has used her education during schooling and upon school completion, the extent to which girls' agency and choices were improved, and the extent to which broad cultural norms were transformed. Such a framework goes beyond simply measuring education access to evaluate the learning and empowerment that result from education. It also requires using that data to develop better policies and programs and to improve those that exist. It may also

consider the use of innovative data collection methods, such as the SMS Dashboard.[83] Government and funder supported programs, projects and routine work would then reflect this monitoring and evaluation framework as a standard for transformative girls' education policy implementation.

Priority Action #5: Establishing Long Term Vision and Investment of Resources

Acknowledging that cultural change does not come about overnight, the government and funders should allocate adequate resources to sustain, maintain, and scale up community mobilization. Such resources would adequately build the capacity of girls themselves and local leaders (e.g., village change agents, progressive traditional leaders, school management committees, and mother groups). The GABLE program was an example of how resources can be effectively channeled toward this goal. The GABLE social mobilization campaign facilitated community action planning that enabled community leaders to identify constraints and find solutions. The program also enhanced linkage between communities and schools as well as Primary Education Advisors. Despite its limitations, the program pushed the frontiers of girls' education programs in Malawi. However, when its funding ended it became very difficult to build on the lessons that were learned and to sustain the change it initiated.

There is also a need to reduce reliance on external funding and build resource capacity locally to support girls' education. One means of addressing this challenge is the institution of village savings and loans programs, which could be integrated with village forums and mother groups. Also necessary are increased livelihood options so that initiation counselors, for example, have other

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means to generate income. In addition, existing resources need to be more effectively utilized by strengthening links across sectors, such as between youth friendly health services and schools, in order to sustainably and holistically address the needs of adolescent girls. Meanwhile, external support continues to be important in critical areas, including scholarships that include the costs of schooling and a robust mentoring program to support secondary education for poor girls.

Priority Action #6: Improving Girls' Learning Outcomes through Enhancing Community Involvement

It is vitally important for the government of Malawi to ensure that girls are not only accessing and staying in school but are also learning well. Poor learning exacerbates dropping out as girls and parents lose faith in the purpose of getting an education when it brings no immediate meaningful change in their lives. Unfortunately once girls drop out, they are at even greater risk of early marriage and pregnancy.[84]

Ensuring progress on education quality and learning outcomes is particularly urgent in Malawi, as nearly 65 percent of its annual education budget is wasted each year due to high rates of grade repetition and dropout.[85] While MOEST has taken positive steps by incorporating continuous assessment in the primary school curriculum, and in the secondary school curriculum through a review that is under way, the Malawi government also recognizes that more needs to be done to support learning for girls and boys.

Although the need to improve learning outcomes is well understood, the role of communities in promoting learning for all children is less recognized. In fact, communities can support learning and promote accountability in the government systems that are responsible for delivering education. Initiatives in Malawi and in other parts of Africa provide potential models for enhancing such community participation. Traditional structures in Malawi, such as traditional authorities including village chiefs and village heads, can be activated to promote and monitor learning and education quality. This can be done in several ways, including the following:

• *Mobilize Communities In Support of Learning:* The Read Malawi program is one example of an approach that has shown promise as a model for positively affecting learning outcomes at the village level through community involvement. The reading centers—which are managed by volunteers—are housed in an array of locations, ranging from informal spaces, such as family homes, to formal spaces and institutions, such as churches, mosques and constructed shelters. Volunteers are trained in both basic literacy instruction and methods to incentivize learners. Village heads have been instrumental in supporting reading centers by encouraging parents to send their children, by organizing literacy fairs, by issuing chalkboards to reading centers, and by their mere presence at the centers. Schools and communities likewise work together to supply scarce supplementary readers to the centers. One of the communities participating in the program specifically sought to improve girls' literacy, which appears to have influenced the outcomes of standard 3 girls' measures of achievement in Chichewa and English.[86] According to an analysis of the program conducted by the prime contractor, the University of Texas at San Antonio, "findings indicate

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that mobilizing communities around holistic literacy reform efforts do have an effect on the literacy achievement of young readers and writers and should be considered an integral part of any holistic literacy reform effort in Malawi."[87]

- *Mobilize Communities with Assessment Data and Create Accountability:* Lack of information about learning outcomes hinders community mobilization and the ability of community members to hold schools accountable for school quality. Despite the evidence that learning outcomes are low in comparison to neighboring countries, and that girls are behind their male counterparts, communities are not yet mobilized. The experience of ASER in India, UWEZO in Kenya, and the larger family of citizen led assessments in Pakistan, Tanzania, Uganda, Senegal, and Mali covering over one million children in South Asia and sub-Saharan Africa, shows that when communities have information about their children's learning levels, they are inspired to action. In Malawi, this kind of model could include programming to mobilize communities to enroll children who are out of school and to include discussion and action forums in communities around schools where learning levels are low.[88] These tools can be used to promote change agents within communities, and also to open forums about the value placed on education for girls and for boys.

- *Engage Traditional Leaders, Girls and Other Education Stakeholders in Policy Discussions about Learning:* Malawi has the opportunity to set an example in the region in terms of democratic, consultative engagement around education policy issues, and in so doing, will also serve to mobilize communities around learning. For instance, the MOEST may work with the Learning Metrics Task Force to pilot recommendations on learning in Malawi (box 10). This work could begin with the formation of a community of practice to determine the agenda for improving learning outcomes. In this case, there is a great opportunity to build in a consultative framework that is responsive to input from girls as well as many other stakeholders relevant to education, including boys, parents, teachers, head teachers, education administrators, and traditional authorities.

> **BOX 10. THE LEARNING METRICS TASK FORCE**
>
> The Learning Metrics Task Force is a global consultative process that has met over a period of 18 months in order to make recommendations on how learning can be defined and measured, and how these measures can be implemented. The recommendations of the task force were recently launched at the one year anniversary of the United Nations Secretary-General's Global Education First Initiative. The task force is now planning to pilot work in a number of priority countries to improve assessment and learning practices by addressing institutional, political and technical spheres that affect learning. This work may start with the fostering of a community of practice that develops the priorities for how to improve learning, and may include work to improve assessment practices at the national level or work to address other national priorities related to learning.

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CONCLUSION

Gender disparities in education in Malawi persist, particularly for adolescent girls, despite progress in girls' enrollment. By examining the implementation of the Readmission Policy, it is evident that inadequate attention to the cultural dimensions of gender inequality has limited the potential impact of this policy in reducing adolescent girls' exclusion from school. It is also evident that cultural constraints rooted in patriarchal attitudes, norms and practices at the community, school and household levels pose a barrier to girls' education in Malawi more generally. While the analysis here highlights certain practices and attitudes harmful to girls, this paper has also argued that culture is a powerful force that can be channeled toward the promotion of girls' education through the mobilization of community support and change agents at grassroots level. The Malawi Adolescent Girls Learning Partnership (AGL) proposed in this paper can serve as a program to address the cultural practices and patriarchal norms impeding girls' retention and learning in school, and also to mobilize communities to promote girls' participation and learning.

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18. "Basic competence in literacy": the percentage of pupils who achieved Level 4 reading competence and higher on the SAQMEQ examination. Pupils were grouped in eight level categories according to their examination score: Level 1 (Pre-Reading) through Level 8 (Critical Reading). Pupils who achieved Level 4 reading competence achieved the following minimum criteria: "Reads on or reads back in order to link and interpret information located in various parts of the text." (Njora Hungi et al., *SAQMEQ III Project Results: Pupil Achievement Levels in Reading and Mathematics*, Working Document Number 1 (SAQMEQ, 2010), Table: "Reading Achievement Levels by Subgroups," 6-7 and 19).
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23. Calculated from ibid, "Table 23: Number of Drop Outs by Reason, Division, Form and Sex 2011/2012," 70.

24. Unterhalter, "Connecting the Private and the Public," 75; citing Cynthia B. Lloyd and Barbara S. Mensch, "Marriage and Childbirth as Factors in Dropping Out from School: An Analysis of DHS Data from Sub-Saharan Africa," *Population Studies* 62, no. 1 (March 2008), 3.

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26. The Northern Region which is heavily patrilineal has the highest number of girls dropping out due to marriage while the matrilineal Central and Southern Regions have more girls dropping out due to pregnancies (MOEST, *Education Statistics 2012*, "Table 7.2: Number of Dropouts by Reasons, Standard and Sex-Division/Districts 2011/2012," 30-39, and "Table 23: Number of Dropouts by Reason, Division, Form and Sex 2011/2012," 70-73).

27. Madalo Samati, "Beyond Access Is an Attitude: A Case Study of AGSP," (master's thesis, Brandeis University, 2010).

28. Nahid Mazloum, *Readmission/Pregnancy Policy Status Report* (Malawi: UNICEF, 2000), 16.

29. Chimombo, *A Comparative Study on Universal Primary Education Policy*.

30. Centre for Education Research and Training (CERT) and Devtech Systems, *The Safe Schools Program: A Qualitative Study to Examine School-Related Gender Based Violence in Malawi* (Washington: USAID, 2008); K. A. L. Hyde and E. C. Kadzamira, *GABLE: Knowledge, Attitudes and Practice Pilot Survey* (Zomba: Centre for Social Research, 1994).

31. Joseph Patrick Goodson Chimombo, "Implementing Educational Innovations: A Study of Free Primary Education in Malawi" (PhD thesis, University of Sussex, 1999), 258; Creative Center for Community Mobilization (CRECCOM); "AGSP Annual Reports," 2008 and 2009, unpublished.

32. Mazloum, *Readmission*; Liwewe, *Re-Entry Policy*.

33. Mazloum, *Readmission*, 16.

34. Malawi Human Rights Commission (MHRC), *Cultural Practices and their Impact on the Enjoyment of Human Rights, Particularly the Rights of Women and Children in Malawi* (Lilongwe: MHRC, 2005). In tribes that practice "sexual cleansing,"
a sexual encounter is arranged between a widow and her deceased husband's male relative in order to clear her home of the bad omen of death. "Wife inheritance" and "levirate marriage" refer to the practice in which a widow is obligated to marry her deceased husband's male relative (wife inheritance) or, more specifically, his brother (levirate marriage).

35. CERT and Devtech Systems, *Safe Schools Program*; Thomas Bisika, Pierson Ntata, and Sidon Konyani, "Gender-Violence and Education in Malawi: A Study of Violence Against Girls as an Obstruction to Universal Primary School Education," *Journal of Gender Studies* 18, no. 3 (September 2009).

36. Chimombo, *A Comparative Study on Universal Primary Education Policy*.

37. CERT and Devtech Systems, *Safe Schools Program*, 55.

38. Ibid.

39. *Gender and Development Index 2011* (Lilongwe and Zomba: Ministry of Gender, Children and Community Development and the National Statistical Office, June 2012), 16-17.

40. A mother group is a formal institution at every school comprising 10 women selected from a school's catchment area. Mother groups act as advocates for girls, particularly adolescent girls, in school by enhancing linkages between girls, school administrators, school management committees, parents and other service providers.

41. UNICEF, Mother Group Database (2012).

42. Liwewe, *Re-Entry Policy*.

43. Mazloum, *Readmission*, 13.

44. Ibid., 14.

45. Liwewe, Re-Entry Policy, 20 and 23.

46. It is more likely in matrilineal families that a girls' pregnancy may be viewed as a blessing, whereas in patrilineal families it is the children of male members of the family that are considered heirs and the pregnancy of unmarried daughters received more harshly.

47. Liwewe, *Re-Entry Policy*, 25-26.

48. Ibid.

49. Quoted by Liwewe, *Re-Entry Policy*, 25.

50. Hyde and Kadzamira, "GABLE."

51. Samati, "Beyond Access."

52. Mazloum, *Readmission*, 18.

53. Data from the 2010 Malawi Demographic and Health Survey indicates a high prevalence of sexual violence in Malawi and early initiation to sexual activity. A range of 18 to 36 percent of 15-49 year old females from Malawian districts are reported to have experienced physical and sexual violence. 14 percent of females and 22

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percent of males had first sexual intercourse before 15 years; the figure is higher in rural areas for girls at 17.6 percent. 20 percent of teen girls are married, many of them by force, compared to 2 percent of teen boys (cited in: *MDG Acceleration Framework Action Plan for Gender Equality and Women Empowerment in Malawi: A Background Paper* [Lilongwe: Government of Malawi, 2012], 14).

54. MHRC, *Cultural Practices*; Creative Center for Community Mobilization (CRECCOM), "Eliminating Pre-Adolescent Initiation: To Delay Sex and Promote Girls Education," retrieved from http://www.creccom.org/project.php?project=28.

55. Hyde and Kadzamira, "GABLE."

56. Uzma Anzar, Sharon Harpring, Joseph Cohen, and Elizabeth Leu, *Retrospective Pilot Study of USAID-Funded Education Projects in Malawi*, EQUIP1 Cross-National Synthesis of Education Quality (Washington: Education Quality Improvement Program, USAID, 2004), 12.

57. Activities of the Gender Appropriate Curriculum of MIE are yet to be incorporated in teacher training colleges.

58. Paul Herbert, William Millsap, and Nagat El-Sanabary, *Summative Evaluation of USAID/Malawi's Girl's Attainment in Basic Literacy and Education (GABLE)* (Lilongwe: USAID, May, 30, 2002), 4.

59. UNDP, *MDG Acceleration Framework Action Plan for Gender Equality and Women Empowerment in Malawi: A Background Paper* (Lilongwe: Government of Malawi, 2012), 41.

60. Dixie Maluwa-Banda, "Gender Sensitive Educational Policy and Practice: The Case of Malawi," *Prospects* 34, no. 1 (March 2004), 74.

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62. Liwewe, *Re-Entry Policy*, 13.

63. Liwewe, *Re-Entry Policy*.

64. Mazloum, *Readmission*.

65. Government of Malawi and UNDP, *MDG Acceleration Framework,* 47.

66. Earnest Pemba, "Impact of HIV/AIDS Project Interventions on the Conduct of Yao Initiations" (master's thesis, University of Malawi, January 2010), 37.

67. American Institutes for Research, Creative Center for Community Mobilization, Malawi Institute of Education, and Miske Witt & Associates, *Primary School Support Program: A School Fees Pilot (PSSP: SFP): Annual Report, January-December, 2006* (Washington: USAID, 2007).

68. Blessings Chisinga, "The Interface Between Tradition and Modernity: The Struggle for Political

Space at the Local Level in Malawi," *Civilisations: Revue Internationale d'anthropologie et de Sciences Humaines* 54 (2006), 255-274.

69. Liwewe, *Re-Entry Policy*.

70. MHRC and ActionAid Malawi, "The Existence and Implementation of Laws, Policies, and Regulations in Education and How They Affect the Girl-Child in Malawi" (Lilongwe: MHRC and ActionAid Malawi, 2005).

71. The privatization of the post office in 2006 and measures toward decentralization have made assuring consistent communication with schools from the central ministry even more complex.

72. Chimombo, *Implementing Educational Innovations*, 147.

73. A positive step in this direction is the development of by the MOEST of a Teachers' Code of Conduct, currently underway, to address school-related gender based violence.

74. National Statistical Office, *Integrated Household Survey 2010-2011*, 204 .

75. J. Chimombo, N. Kendall, N. Tembo, G. Chimsanya, M. Mlia, and N. Njanji, *Situation Analysis Study Report for Marginalized Girls in Kasungu District, Malawi* (Lilongwe: CARE International Malawi and Patsy Collins Trust Fund Initiative, 2008).

76. Nancy Kendall and Chloe O'Gara, "Vulnerable Children, Communities and Schools: Lessons from Three HIV/AIDS-Affected Areas," *Compare: A Journal of Comparative and International Education* 37, no. 1 (January 2007).

77. Chimombo, *A Comparative Study on Universal Primary Education Policy*, 53.

78. Chances of orphaned girls' school reentry are even slimmer. An estimated 12.6 percent of the school-age children (6 to 17 years) are orphans, mainly due to the HIV/AIDS pandemic. Extended families and communities struggle to cope with raising orphaned children, often leaving them to fend for themselves or live with elderly grandparents. Orphanhood, which impoverishes children in more than just material terms, renders them twice as likely to drop out. Orphaned girls are more likely to drop out than boys, are more likely to take up the responsibility for caring for younger siblings, and hold a vulnerable place in society, often making them more prone to sexual abuse and reliance on "sugar daddies" (Manohar P. Sharma, "Orphanhood and Schooling Outcomes in Malawi," *American Journal of Agricultural Economics* 88, no. 5 [2006], 1273-1278; Esme Chipo Kadzamira, Dixie Maluwa-Banda, Augustin Kamlongera, and Nicola Swainson, "The Impact of HIV/AIDS on Primary

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and Secondary Schooling in Malawi: Developing a Comprehensive Strategic Response" [Zomba: Centre for Educational Research and Training, September 2001]; Natalie Streuli and Catherine M. Moleni, *Education and HIV and AIDS in Malawi: The Role of Open, Distance and Flexible Learning*, SOFIE Opening Up Access Series 3 [London: Institute of Education, University of London, 2008]).

79. Kendall and O'Gara, "Vulnerable Children."

80. An example of such forums in Malawi are STAR Circles, which have been implemented by CRECCOM, WORLEC, and Action Aid. See, for example: CRECCOM, "Star Circles," http://www.creccom.org/methods.php; Women's Legal Resource Centre (WOLREC), "Improving Women's Empowerment through Reduction of Harmful Socio-Cultural Factors in Balaka District," http://wolrec.org/index.php/what-we-do.

81. Erin Murphy-Graham, *Opening Minds, Improving Lives: Education and Women's Empowerment in Honduras*. (Nashville: Vanderbilt University Press, 2012), 3.

82. Cynthia B. Lloyd, *Education for Girls: Alternative Pathways to Girls' Empowerment*, Issue Paper Series (Paper Commissioned by Girl Hub, 2012).

83. SMS Dashboard is automated cell phone text messaging sent to clients through a partnership between development organizations and a cell phone company. In Malawi it has been used to provide technical messages and timely feedback to subsistence farmers through the Farmers Voice Radio Project, which utilizes information and communication technologies (ICT)—such as mobile phones and SMS—to enhance communication and feedback with farmers (Tango International, *Final Evaluation of the Farmer Voice Radio Project* [Tucson, AZ: August 21, 2012], 18).

84. Cynthia B. Lloyd with Juliet Young, *The Power of Educating Adolescent Girls: A Girls Count Report on Adolescent Girls* (Washington: Population Council, 2009).

85. World Bank, xxxi.

86. M. Sailors, J. V. Hoffman, P. D. Pearson, N. McClung, and J. Shin, *Measuring Growth Over Time in Years 1 and 2 of Malawi Reads* (San Antonio: University of Texas at San Antonio, 2012).

87. "Community-Based Support for Implementation of a Complementary Reading Program," Read Malawi: Reports, http://www.utsa.edu/readmalawi/reports/.

88. ASER and other citizen led assessments are generally conducted annually at the household level from a representative sample of children at the subnational and national levels. The surveys measure basic literacy and numeracy at the second grade of primary school, and are conducted in local and regional languages by volunteer citizens. The tools are designed to be simple enough for parents, teachers, schools, and communities to conduct the assessments and understand the findings. Tools are calibrated to learning levels that match the second grade of primary school, and are conducted in local and regional languages by volunteer citizens. The tools are designed to be simple enough for parents, teachers, schools, and communities to conduct the assessments and understand the findings. (Pratham USA, "Citizen-Led Basic Learning Assessments: An Innovative Approach," November 2012, http://www.prathamusa.org/news/asers-citizen-led-basic-learning-assessments).

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