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The impact and cost of child marriage prevention in rural Tanzania

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THE IMPACT AND COST OF CHILD MARRIAGE PREVENTION IN RURAL TANZANIA

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Background

It is estimated that over 100 million girls will be married during their childhood—before the age of 18¹—in the next decade, and 14 million will be married by age 15.² Child marriage is frequently prevalent in rural locations of poor countries, characterized by low levels of development and limited school and work opportunities.³

The negative impact of child marriage spans health, development, and demographic consequences. Ninety percent of first births to girls under age 18 take place in the context of marriage,⁴ and not to unwed mothers as is often assumed. Childbearing typically follows these unions, with early first births being the most risky. Pregnancy and delivery complications are the main reasons for death among girls aged 15 to 19, and girls who bear children before age 15 are five times more likely to die of pregnancy-related causes compared to older mothers.⁵ Some studies in sub-Saharan Africa suggest that girls who marry early have substantially increased risk of HIV infection—roughly 50 percent higher—compared to their unmarried sexually active peers,⁶ with the excess risk related to frequent intercourse, limited condom use, and husbands who are older and more likely to be HIV positive compared with boyfriends of unmarried girls.⁷

Girls married as children usually enter marriage with low levels of education or no education whatsoever, and limited knowledge and skills to negotiate marital roles.⁸ For

example, in Ethiopia, 79 percent of girls who married before the age of 15 had never been to school.⁹ They also tend to have larger age differences with their husbands than those married later, which compromises their power within marriage, including decisions related to family planning (FP), childbearing, and maternal, newborn and child health (MNCH) services.¹⁰ Lastly, child marriage is associated with increased total fertility and contributes significantly to population momentum.^{11,12} This occurs because child marriage shortens the time span between generations and increases the number of years that females spend childbearing.

¹ United Nations Children's Fund (UNICEF). 2001. *Early Marriage: Child Spouses*, Florence, Italy: UNICEF.

² Bruce J. "Child Marriage in the Context of the HIV Epidemic," Population Council: Transitions to Adulthood Brief, no. 11, Sept. 2005.

³ Lloyd C, ed. *Growing Up Global: Changing Transitions to Adulthood in Developing Countries*, Washington, DC: Nat'l Academies Press, 2005.

⁴ Haberland N et. al. "Early Marriage and Adolescent Girls," Youthnet: Youthlens on RH and HIV/AIDS, Brief no. 15, August 2005.

⁵ Murphy E, Carr D, "Powerful Partners: Adolescent Girls' Education and Delayed Childbearing," PRB brief, Sept 2007.

⁶ Clark S, 2004. "Early marriage and HIV risks in sub-Saharan Africa," *Studies in Family Planning*, 35(3): 149-160. Glynn, JR, et al. 2001. *Why do young women have a much higher prevalence of HIV than young men?* *AIDS*, 2001; 15 (suppl 4): S51-S60.

⁷ Clark S, Bruce J, Dude A. 2006. "Protecting young women from HIV/AIDS: The case against child marriage," *Int'l Fam Plan Persp*, 32(2): 79-88.

⁸ UNICEF. 2011. *State of the World's Children 2011: Adolescence, An age of Opportunity*, New York; UNICEF, February.

⁹ Erulkar A. 2013 "Early marriage, marital relations and intimate partner violence in Ethiopia," *International Perspectives on Sexual and Reproductive Health*, 39(1): 6-13.

¹⁰ Mensch B, Bruce J, Greene M. 1998. *The Uncharted Passage: Girls' Adolescence in the Developing World*, New York: Population Council.

¹¹ Raj A, Saggurti N, Balaiah D, et. al. 2009. "Prevalence of child marriage and its effect on fertility and fertility control outcomes of young women in India: A cross sectional observational study," *The Lancet*, 373(9678): 1883-1889.

¹² Bruce J, Bongaarts J. 2009. "The new population challenge," in: Mazur L, ed., *A Pivotal Moment: Population, Justice, and the Environmental Challenge*, Washington, DC: Island Press.

In most of the developing world, young people are increasingly marrying at later ages. Among young women in sub-Saharan Africa, educational expansion has a relatively strong link to delays in marriage age.¹³ Despite an overall trend to later age at marriage, certain social, political, economic, or environmental shocks can be associated with reversals of this trend. For example, rates of child marriage among Syrian refugees in Jordan were found to be increasing perhaps as a household strategy to ensure the safety of the girl or alleviate household stresses. From 2011 to 2013, registered marriages that involved underage girls increased from 12 to 25 percent.¹⁴

Child marriage prevention programs

While one in three girls in developing countries will be married before age 18, most child marriage prevention programs are small-scale and unevaluated. Lee-Rife and colleagues (2012) undertook a systematic review of 23 evaluated child marriage interventions in developing countries, among which five were in sub-Saharan Africa. Nonetheless, the review found that—while evidence is limited—the most effective approaches in delaying child marriage were those that empower girls, offer incentives such as conditional cash transfers, and engage communities.¹⁵ A more recent review by Hindin and Fatusi (2014) explored both published and grey literature and found most of the successful programs included a conditional cash transfer, supporting the findings of the earlier review.¹⁶

For example, the *Berhane Hewan* program in Ethiopia offered a conditional asset transfer (goat) to families who kept their girls unmarried during the two-year pilot. In addition, girls were given school supplies and communities engaged in community conversations on the harmful effects of child

marriage. After two years of intervention, girls aged 10 to 14 in the Berhane Hewan site were one-tenth as likely to be married and three times more likely to be in school, compared to girls residing in the control area.¹⁷

Most evaluation plans lack rigorous costing data. This is a particular weakness of cash transfer schemes as programmatic cost would affect the ability to upscale successful schemes for large populations. For example, despite the successful impact of the Berhane Hewan program in Ethiopia, there were lingering doubts about the scalability of providing a \$25 goat to families (amounting to \$1 per month for the two-year pilot), an amount which could not be justified in the absence of rigorous costing data. Interventions such as the *Zomba* scheme in Malawi offered households a conditional cash transfer of between \$4 and \$10 per month and offered girls between \$1 and \$5 per month.¹⁸ While Zomba was found to reduce school dropout by roughly 40 percent, it is unclear if such schemes can be feasibly scaled up to large populations in poor countries, given the monthly expense and the magnitude of payments.

As a result of the limited information on cost and scalability of conditional cash transfer programs, the Population Council and partners designed research to determine if simple, cost-contained interventions could be effective at delaying marriage in child marriage hotspots in sub-Saharan Africa. The research includes rigorous costing data, providing evidence for subsequent expansion of successful approaches. This brief outlines the results of the research in the Tabora region of Tanzania.

¹³ Mensch B, Singh S, Casterline J. 2005. Trends in Timing of the Age at Marriage among Men and Women in the Developing World, New York: Population Council Working Paper no. 202.

¹⁴ UNICEF. 2014. A Study on Early Marriage in Jordan in 2014, Amman: UNICEF country office.

¹⁵ Lee-Rife A, Malhotra A, Warner A, Gliński AM. 2012. What works to prevent child marriage: A review of the evidence, *Studies in Family Planning*, 43(4): 287-303.

¹⁶ Hindin M. and Fatusi O. 2014. Exploration of Young People's Sexual and Reproductive Health Assessment Practices, Johns Hopkins University, September.

¹⁷ Erulkar A, Muthengi E. 2009. "Evaluation of Berhane Hewan: A program to delay marriage in rural Ethiopia," *International Perspectives on Sexual and Reproductive Health*, 35(1): 6-14.

¹⁸ Baird S, Gardein R, McIntosh C, et. al. 2012. Effect of a cash transfer programme for schooling on prevalence of HIV and Herpes Simplex Type 2 in Malawi: A cluster randomised trial, *The Lancet*, published online February 15, 2012.

Study Location

Tabora region is located in central-western Tanzania. It has a population of over 2.2 million and is one of the largest geographical regions in the country. The region is largely agricultural and tobacco is a major economic activity. The Population Council partnered with Tabora Development Foundation Trust (TDFT), an NGO founded in 2001 with expertise in working with rural populations and on child rights issues.

Tabora region has among the highest rates of child marriage in Tanzania. In addition, between the last two Demographic and Health Surveys (DHS), child marriage appears to be increasing in Tabora, particularly among girls under the age of 15 (Figure 1). Between 2004 and 2010, marriage of Tabora girls under age 15 more than doubled, from 7 to 16 percent. Likewise, trends in the DHS show a decline in educational attainment in Tabora, from an average of 3.7 years of schooling to 3.2 years of schooling, as well as an increase in the percent of girls who had never been to school¹⁹ (results not shown).

¹⁹ Among females 20 to 24.

Methodology

The study compared and tested simple interventions to delay the age at marriage, in order to identify the most cost effective, scalable minimum package needed to prevent child marriage. We implemented separate child marriage prevention strategies in different wards of Uyui District in Tabora, Tanzania.

Interventions tested

In one ward of Tabora region, we implemented **community sensitization** on the harmful effects of child marriage in an attempt to address social norms surrounding the practice. A facilitator's guide was developed to standardize messaging on the importance of girls' education and the negative impacts of child marriage. Community and religious leaders were trained at the beginning of the project to facilitate discussions and deliver messages during monthly village meetings or weekly religious services. In addition, project staff from TDFT disseminated messages on market days.

In another ward, schooling was promoted to unmarried girls aged 12 to 17. Girls who registered for **schooling promotion** took school materials with the agreement from girls and their families that they would remain unmarried and in-school for the two-year duration of the pilot. Girls were given the choice of receiving a school uniform or school supplies, which included 12 exercise books, five pens, two pencils, and one mathematical set. Registered girls received supplies once at the beginning of the school year. In addition, school-going girls were encouraged to attend "Smart Girls' Clubs," which were after-school tutoring and life skills clubs set up by the project.

One ward included all the project components, or a **comprehensive model**: community sensitization, schooling promotion, and a conditional asset transfer. In addition, a **control ward** was included in the study where no intervention took place. Interventions were implemented for 28 months.

FIGURE 1: Percent of Tanzanian females married by age 15 and age 18 (2004, 2010)

Research Design

This was a quasi-experimental research design with interventions executed in different geographical areas for just over two years. The research was designed to determine if interventions impacted upon the prevalence of child marriage and school attendance at the level of the population. Separate, cross-sectional, population-based baseline and endline surveys were undertaken before the interventions were established and after 28 months of intervention. At each round of survey, 2,500 girls aged 12 to 17 were sampled, 500 per study ward, or cell, in order to measure the prevalence of child marriage at the level of the population, regardless of participation in the interventions. In each study ward, 17 enumeration areas (EAs) underwent a household listing in order to establish a sampling frame; 30 girls and 6 parents were selected for interview in each EA. Female interviewers conducted the interviews. Informed consent was obtained from the parent or guardian of the sampled adolescent and informed assent was obtained from the adolescent girl. Where a girl was married, it was considered that she was an emancipated minor and provided her own consent. Following the endline survey, a small-scale qualitative study was undertaken through focus groups to further explain the quantitative findings.

At the beginning of the study, a spreadsheet was developed to enable systematic compilation of all project costs. Cost

categories included staff time, office expenditures, training and meeting costs, travel expenditures, and purchase of commodities. Cost data was updated in the spreadsheet on a monthly basis by TDFT and Population Council staff. On a yearly basis, costing data was validated by a costing expert.

Our key outcomes were percent of girls aged 12-17 years who had ever been married and who were attending formal schooling or who had attended in the previous year. Because the earlier Berhane Hewan study in Ethiopia suggested that child marriage interventions may operate differently among younger versus older adolescents, we conducted subgroup analysis separately on respondents 12 to 14 and 15 to 17. In terms of school attendance, we examined girls who were currently in school or who had attended during the previous year. Descriptive statistics compared levels of marriage and school attendance by study cell and time of survey. In addition, Poisson regression was used to model risk ratios, separately, of being married and attending school at baseline and endline, controlling for age, ethnicity, religion, and socioeconomic status.

Results

Study population

At baseline 2,133 Tanzanian girls aged 12 to 17 were interviewed, amounting to an 85 percent response rate of the desired sample size. At endline, 2,104 girls were interviewed (84 percent of the desired sample size).

Prevalence of child marriage

Consistent with the DHS, between baseline and endline surveys, child marriage among 12 to 14-year-olds increased from 0.6 percent to 2.5 percent. Among girls 15 to 17, the prevalence of marriage remained largely unchanged: 19 percent at baseline and 20 percent at endline.

Table 1 shows the adjusted risk ratios at endline for having ever been married in the four study arms compared to the control site after adjusting for age, ethnicity, religion, and socioeconomic status. At endline, girls aged 15 to 17 residing in the conditional asset transfer site had half the risk of being married (RR = 0.52) compared to girls residing in the control site, a statistically significant difference. Girls 12 to 14 residing in the comprehensive/“full” model had two-thirds less risk of being married compared to counterparts in the control site (RR = 0.33).

School attendance

Consistent with trends in the DHS, school attendance in the previous year declined significantly from baseline to endline: from 75 to 68 percent. However, in multivariate models controlling for age, ethnicity, religion, and socioeconomic status, girls aged 12 to 14 residing in all the study sites had significantly higher likelihood of being in school during the previous year, compared to counterparts in the control site (Table 2). Among girls aged 15 to 17, those residing in the education promotion site had a 30 percent greater risk of being in school compared to control girls.

TABLE 1: Adjusted¹ risk ratios (and 95% confidence intervals) for Tanzanian girls having ever been married at endline, with reference to the control group, by study cell and age group

	Age 12 to 14	Age 15 to 17
Community sensitization	1.13 (0.48, 2.68)	0.74 (0.43, 1.27)
Education promotion	0.70 (0.30, 1.65)	0.99 (0.64, 1.53)
Conditional asset transfer	0.41 (0.15, 1.15)	0.52 (0.30, 0.91)*
Comprehensive model	0.33 (0.11, 0.99)*	0.59 (0.34, 1.01)

Note: Weighted data ¹ Adjusted for age, religion, ethnicity, and socioeconomic status

* $p < 0.05$

TABLE 2: Adjusted¹ risk ratios (and 95% confidence intervals) for Tanzanian girls having ever been married at endline, with reference to the control group, by study cell and age group

	Age 12 to 14	Age 15 to 17
Community sensitization	1.17 (1.04, 1.32)**	0.92 (0.68, 1.23)
Education promotion	1.21 (1.08, 1.35)**	1.30 (1.01, 1.67)*
Conditional asset transfer	1.34 (1.20, 1.48)***	1.29 (1.00, 1.68)
Comprehensive model	1.28 (1.15, 1.43)***	1.00 (0.76, 1.32)

Note: Weighted data ¹ Adjusted for age, religion, ethnicity, and socioeconomic status

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$

Qualitative findings

A small-scale study to understand the results of the impact evaluation was undertaken in Tabora, following the endline survey. Both girls and parents were interviewed in focus groups and schools were visited. The assessment underscored the economic hardships faced by Tabora residents during the time of the study. The tobacco cooperatives had reportedly left farmers unpaid for extended periods, resulting in intensified economic hardship during the study

period. This could have resulted in the declines in school enrollment and increases in very early marriage witnessed during the study.

“For the past 3 years, farmers have not been paid well by the tobacco companies. We have not been getting paid since 2012. The whole Milumba village was not paid for its tobacco in 2013 and 2014.”

– Father of adolescent girl, Tabora

“The president expressed concern that tobacco farmers in the region have for long complained over not being paid after selling their produce to the cooperatives.

‘Regarding tobacco farmers, I have been briefed on swindling and graft, which has crippled the cooperatives and rendered them unable to pay the farmers.’”

– Pesa Times, June 9, 2014

Program costs

The cost of approaches per girl served ranged from \$9 to \$117 per year. Cost estimates included commodities provided, staff time, and monitoring and supervision costs.

Community sensitization cost an estimated \$9 per girl per year, while school promotion cost \$18 per girl per year. The conditional asset transfer (goat) and the comprehensive model cost \$107 and \$117 per girl, per year, respectively.

This elevated cost was due to the cost of goats and related storage, transport, and delivery in rural Tanzania.

The cost effectiveness—or cost per marriage averted—was calculated for the successful model: the conditional asset transfer. The cost per marriage averted among girls 15 to 17 was \$732 per marriage averted. However, if one assumes the same magnitude of impact, the cost per marriage averted is lower in locations where child marriage is more prevalent.

Discussion

Most intervention research simply measures the impact of approaches on target populations, without regard to the feasibility of scaling up effective interventions. This study contributes to the very limited literature examining the scalability of design, impact, and cost of interventions that can be implemented to address a widespread problem, at scale in poor settings. Our findings reflect that it is possible to implement simple, cost-contained interventions to prevent child marriage and promote schooling.

Results are consistent with previous reviews of child marriage interventions that found that economic interventions or cash/asset transfers appear to be effective in preventing child marriage. The study was conducted in the Tabora region which was undergoing severe economic hardship at the time. The dire economic circumstances of the region likely contributed to the success of the economic approach in delaying marriage. All the interventions appeared to be effective in improving school attendance among younger girls aged 12 to 14, with the economic interventions having the strongest effect.

In Tanzania, a significant proportion of girls had premarital sex. As a result, unintended pregnancies frequently hastened arrangements for an early marriage. In settings where adolescents are sexually active outside of marriage, family planning services and information should be accessible. Knowledge of contraceptives, family planning services, and awareness of fertility should be promoted among adolescents. A focus on schooling, family planning, and fertility awareness can reduce vulnerabilities to child marriage.

Following this study, Population Council and partners are exploring upscaling successful approaches, while continuing to monitor programmatic impact and cost. We will assess locations where child marriage is the most prevalent, in order to maximize the cost effectiveness of interventions. In addition, we will explore the feasibility of providing assets other than a goat, in an attempt to lower programmatic cost and reduce logistical burdens to program staff.

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