

The Paradox of Planning: Agriculture, Schooling, and the Unresolvable Uncertainty of Ideal Family Size in Rural Sierra Leone

Catherine E. Bolten  and Richard Marcantonio

Abstract: Post-war Sierra Leone has experienced a population explosion that has raised questions among rural farmers about the relationship between family size and poverty. Agricultural decline and the high cost of schooling are not prompting parents to articulate a desire for smaller families; rather, they highlight that the uncertainty around articulating the “right” number of children is unresolvable because the ability to send children to school is predicated on increasing agricultural outputs that decline precisely because population pressure has reduced soil fertility. Bolten and Marcantonio conclude that this renders family size the heart of a paradox, where there is no optimal number of children.

Résumé: La Sierra Leone d'après-guerre a connu une explosion démographique qui a soulevé des questions pour les agriculteurs ruraux sur la relation entre la taille de la famille et la pauvreté. Le déclin de l'agriculture et le coût élevé de la scolarité n'incitent pas les parents à exprimer leur désir d'avoir des familles moins nombreuses; ils soulignent plutôt que l'incertitude entourant l'établissement du « bon » nombre

African Studies Review, Volume 64, Number 2 (June 2021), pp. 390–411

Catherine E. Bolten is Associate Professor of Anthropology and Peace Studies at the University of Notre Dame. Her research interests span rural and urban development, youth, education, agriculture, and landscape in Sierra Leone. Her most recent book, *Serious Youth in Sierra Leone*, was published with Oxford University Press in 2020. E-mail: cbolten@nd.edu

Richard Marcantonio is a Doctoral Candidate in the PhD program in Peace Studies and Anthropology at the Joan B. Kroc Institute for International Peace Studies and the Anthropology Department at the University of Notre Dame. His research focuses on environmental violence, human ecology, and global environmental change in the Anthropocene. E-mail: Richard.A.Marcantonio.3@nd.edu

© The Author(s), 2021. Published by Cambridge University Press on behalf of the African Studies Association.

doi:[10.1017/asr.2020.96](https://doi.org/10.1017/asr.2020.96)

d'enfants est insoluble parce que la capacité d'envoyer les enfants à l'école est fondée sur l'augmentation des rendements agricoles qui diminuent précisément parce que la pression démographique a réduit la fertilité des sols. Bolten et Marcantonio concluent que la taille des familles est au cœur d'un paradoxe où il n'y a pas de nombre optimal d'enfants.

Resumo: No pós-guerra, a Serra Leoa atravessou um período de explosão demográfica que levou os agricultores a questionarem a relação entre a dimensão das famílias e a pobreza. O declínio da agricultura e o elevado custo da educação não contribuem para incentivar os pais a planejarem famílias menos numerosas. Em vez disso, estes fatores evidenciam que é impossível planejar o número “certo” de filhos, uma vez que a capacidade de enviar as crianças para a escola depende do aumento da produção agrícola, a qual, por sua vez, tem diminuído precisamente porque a pressão demográfica reduziu a fertilidade dos solos. Bolten e Marcantonio concluem que este cenário confere uma natureza paradoxal à questão do tamanho das famílias, para as quais não existe tal coisa como o número ótimo de filhos.

Keywords: demography; agriculture; education; poverty; family planning; Sierra Leone

Introduction

One day in June 2016, we sat in a village in the Tonkolili District of rural Sierra Leone with Mohamed, a father of seven sons ranging in age from thirteen to twenty-five. Mohamed was a farmer, and he strained to harvest three months of food from his family's fields, which he said were “tired” and unable to produce high yields because they were being cultivated too frequently. “The fallow period is too short,” he explained, “because we have too many people clamoring for land. And I am part of this problem.” On being prompted to explain further, he expounded, “My sons... I have more than I can feed but somehow their labor is not enough to bring a good yield from this land. The land does not produce enough to sell for me to pay school fees for all of them, so I must send some of them to the outcast areas of the cities... to work for nothing. When they come back they demand land that I cannot give them, because they are too many and they know the land cannot produce a good yield. The ones with education, they don't have jobs that would support the family. I think poverty is a punishment for children.”

Mohamed's wife Hawa sat next to him, and nodded in agreement. A neighbor, overhearing our conversation, came over to offer a different opinion. Ibrahim also had seven children, and accepted that his family was struggling, however he articulated that living well in the present was not the most important consideration. He explained, “You have to embrace all the children you can have, because you never know what will happen. Maybe the farm will fail but the children in town can send money. Maybe the education will fail but they can come back and join one of these labor groups.

Either way you need many children to make sure you are taken care of when you are old! The punishment is now, when they are young and many, but the reward is later when maybe one will succeed.”

This conversation illustrates a paradox that has emerged at the heart of family life in rural central Sierra Leone since the civil war ended in 2002. Many people explained that before the war, “we never counted children and we never measured rice,” asserting that large families ensured sufficient labor to reap bountiful harvests, making it possible to send a few children to school and rendering hunger relatively unknown. However, a national policy making primary education compulsory emerged concurrently with agricultural decline, as war-induced forest fragmentation combined with post-war population growth to produce land infertility. Where parents once sold a little surplus rice to pay school fees, they now struggle to produce enough food from their land to feed their families for more than a few months, in addition to the demand to sell crops to send multiple children to school.

This has generated a conundrum that never existed before: are small families better because they are less costly to feed and educate? Or are larger families better because they provide agricultural labor and the possibility of distributing risk and reward over space and time, even as they experience short-term hunger? Both agriculture and education are plagued by uncertainties and risk (Johnson-Hanks 2005; Bolten 2015), as low crop yield is now a common problem, and unemployment rates for young people in Sierra Leone hover around 70 percent (UNDP 2020). Sierra Leone is experiencing fertility decline (Timæus & Moultrie 2020); however, the annual population growth rate is 2 percent (World Population Review 2020), rendering the pressure on land and resources formidable.

Adults are finding it increasingly difficult to envision their long-term family horizons. In order to plan a family, one needs the ability to project what the future will look like, possess a vision of a good outcome for one’s family in that future, and have a way of arriving there for which a certain family size is preferred (see Bongaarts & Casterline 2012). Ideal family size is never set in stone; fertility desires are a “moving target” that change over time in response to circumstances (Lee 1980; Johnson-Hanks 2005; Trinitapoli & Yeatman 2018), with women often postponing anticipated children if current circumstances are not favorable (Bledsoe et al. 1998; Timæus & Moultrie 2008). We discovered a fundamental uncertainty among parents about the optimal number of children, even among those who had completed their families. Individuals were still “not sure” if they had the right number in families that ranged from two to thirteen children. Parents such as Mohamed and Hawa, who fell into the middle of this distribution, thought they had had too many children. Other farmers with the same number of children, such as Ibrahim, saw seven as too few. Indeed, Ibrahim was thinking of taking another wife, as he wanted more children and his current wife refused. In arguing over the impact of seven children, each mentioned agricultural productivity, schooling, and labor, but there was no

certainty about the relationship between family size and poverty within that nexus of concerns.

Their disagreement highlighted a central tension in family planning in rural Sierra Leone: the ability to educate children is predicated on producing more laboring bodies to increase agricultural outputs that decline precisely *because* population pressure has reduced soil fertility. This renders the conundrum of “how many children,” at its heart, not just a question of uncertainty, but one of *unresolvable uncertainty*, one that appears to render a numeric response to the question equally irrelevant. We argue that the experiences and opinions of the parents we interviewed highlight that not only is desired fertility a moving target in which present and future concerns are weighed, but that completed fertility offered no clear answers in hindsight. Parents who have completed their families did not know if they had a “good” number of children, regardless of how many were still alive. In essence, they cannot resolve whether they have “no longer wanted children” (Lee 1980:222), because poverty stalks every family in the chiefdom, regardless of family size.

Their experiences offer no roadmap to future fertility, which means younger parents in the community also lack examples of economically successful families that may “spill over” in informing their own planning decisions and behaviors (see Lee 1980:226; Kravdal 2002, 2012). Women from six villages in the Tonkolili District who reported having their last child between 2005 and 2010 (with a total average family size of 6.3 children) indicated that they believed there were still compelling reasons to have large families, even considering poor agricultural yields and the expense of education. Some of the women stated that they “hoped” they had completed their families, but that “the situation may change still.” Ian Timæus and Tom Moultrie noted that Sierra Leone is one of the countries experiencing *parity-independent curtailment*, where parents decide at some point, without reference to a target family size, to stop having children (2020:292). This situation resonates with the fact that the most common answer to the question “how many children is good number?” was a shrug, or prevarication, or a simple “I don’t know.” We hope that our study illuminates why this phenomenon exists in Sierra Leone; perhaps unresolved uncertainty over family size drives the conclusion that “fewer” children would be better, but the question “fewer than what number?” cannot easily be answered.

We begin with the conversation in anthropological demography on the relationship between desired fertility and economic uncertainty and the impact of education on these concerns. We then discuss pre-war rural life from the perspective of older adults, with reference to the relationship between family size, agricultural productivity, and wealth before the 1990s, the touchstone for family size on which they began having children. We move to trends in agriculture and education after the war ended in 2002, when changes in farm productivity, education, and labor migration significantly impacted the dynamic of rural life, thus influencing decisions with respect to fertility among parents who were starting or continuing their families in this new normal. We finish with other unresolved tensions currently extant in

family life that impact fertility. These tensions include the issues women experience with securing their husbands' fidelity through having children, the risk that investing in education for girls will result in unexpected grandchildren, and the practice of sending boys away from home because of land pressure, which often also results in grandchildren. We suggest from this dynamic compendium of pressures that parents may express non-numeric preferences of family size in terms of unresolved uncertainty even in the midst of fertility decline, and that fertility curtailment may be event-driven: there are disagreements within couples as to how many children they "desire," and, at some point, there is a proverbial straw that breaks the camel's back and compels a decision to cease childbearing. As Jennifer Johnson-Hanks aptly notes, "populations are composed one event at a time" (2015). Every decision within a household contributes to the final number of children; the crux of the issue is how this happens.

Research for this article was conducted over four months between 2016 and 2019 by Bolten and over two months between 2017 and 2018 by Marcantonio. We are anthropologists, not demographers, and consider this work "demographic anthropology" rather than anthropological demography, as the topic of family size emerged inductively, and our data collection was focused primarily on elucidating the complexities of socially-embedded actions, rather than obtaining statistically significant representativeness (see Coast et al. 2009). Participant observation data was collected by Bolten in 2016, and by Bolten and Marcantonio in 2017 as part of a larger research project on land use, food security, and environmental change in rural Sierra Leone. We accompanied people around their farms and discussed agriculture and food security, for a total of 220 hours of participant observation. Family planning interviews and focus groups were conducted between 2017 and 2019, specifically as a follow-up to participant observation related to food security, where the question of children emerged consistently in conversations about agriculture. Subjects were selected based on their status as parents and their residence in one of six study villages in the Tonkolili District of central Sierra Leone. Because the villages are small, ranging in size from 20 to 60 homes, we went house to house on multiple days in each village, requesting conversations with adults who were home. We also set up focus groups in the villages' *palaver* huts, communal meeting sites where elderly individuals often spend their days together. Sampling was random in the sense that we only spoke to people who were physically within the village boundaries on one of the dozen days we spent in each village. We interviewed 97 people individually and 125 in focus groups ranging from three to nine people from these six villages. Questions such as desired fertility at that moment, completed family size, child survival, and child education were asked of women and men of all fertility stages, as were the same questions with respect to the families in which they had been raised. In addition, questions were posed about changes in food type, quality, and quantity over their lives into the present. We queried people's perceptions of the future and their preferences for the future, given the ability to control for social and economic factors.

In 2019, Bolten conducted demographic and food security interviews among sixty women who had completed their families, ten from each village. These women were selected by asking residents of the village for an introduction to women whose children had grown, a request they interpreted as wanting to meet “the grannies,” who ranged in age from forty-seven to eighty-two. These women were queried on their completed family size, the occupations of their children, agricultural practices within their families, food consumption practices, presence of grandchildren, and perceptions of their past decision-making with respect to family size. These results were combined and synthesized for analysis.

Situating African Fertility Trends in Sierra Leone

Trends in desired fertility, birth spacing, and completed family size in sub-Saharan Africa have long showed marked differences compared to other regions of the developing world. Social pressures that encourage high birth-rates are in tension with the demands of political and economic change, and produce fertility profiles that differ from other regions (see Caldwell et al. 1992; Moultrie et al. 2012; Trinitapoli & Yeatman 2018). Countries on the sub-continent historically experienced “natural fertility” (van de Walle 1992), with people expressing no numeric preference for the number of desired children, insisting that they accept the number “given by God” (see Bledsoe et al. 1998; Dyer 2007; Frye & Bachan 2017), with recent changes in this trend in Africa still resulting in high numbers of desired children (see Renne 2003; Smith 2004). The transition from non-numeric to numeric preferences has been accompanied by revelations of the complex calculus of family size in contexts of urbanization, rising education costs, gender inequality, and continued economic uncertainty that mark many people’s experiences. The ability to state a preferred number of children before one’s family is completed has been posited as an essential accompaniment to the fertility transition (van de Walle 1992); however, in cases where simple numeracy obscures complex truths, we must be cautious about what the will to state a preference—any preference—actually reveals.

Women who desire many children actively regulate their childbearing, responding to the needs of the moment in ways that directly impact their overall fertility. For example, rather than simply spacing births, it is clear that women also postpone getting pregnant—even in the middle of their childbearing years—if they feel that personal or economic uncertainty makes it unwise to have a child (Timæus & Moultrie 2008; Moultrie et al. 2012). Women weigh their experiences, current positions, and beliefs about their future in decisions about childbearing (Bledsoe et al. 1998); however, they may also feel compelled to produce children because of the safety net and benefits that accrue from large families (Renne 2003; Smith 2004; Dyer 2007; Jaffré & Suh 2016). Women are not just having children haphazardly; they think seriously about the costs and consequences of those children, and there may be no easy answers when they are confronted with the competing

demands of, for example, the cost of educating a child versus the need to generate people to support their own social network and potentially to look after them in old age (Caldwell et al. 1992).

Demographers have long considered desired fertility a “moving target” (Lee 1980), as changing life circumstances impact women’s beliefs about whether they can or should support a new child at any time. In sub-Saharan Africa, this is particularly salient. Life “eludes standardization,” as Johnson-Hanks explains for Cameroon, where a long economic crisis has meant that women do not try to plan their futures. Instead of choices, “they see [their futures] as unfoldings” (2005:369), where the number of children is less important than raising one’s children in a stable marriage. Women around the sub-continent alter their fertility preferences and behaviors as a strategic response to continued uncertainty (Trinitapoli & Yeatman 2018), and do so throughout their childbearing years, not just at the start or end (Caldwell et al. 1992:220). Even outside of explicit crises, fertility is never entirely under human control, and therefore cannot be boiled down to rational calculation, even in social worlds such as middle-class America, where such controls seem to be relevant and present (see Stevens 2015). Taking all of this into consideration, we must analyze what occurs when family size *does* become an explicit concern for people, especially when they acknowledge that, given the hypothetical possibility of planning an ideal family and the supposed benefit of hindsight with their own completed family, the “right” number of children is unclear. In this case, family size becomes an explicit concern concomitantly with an *inability* to state an ideal number of children.

Much of the literature examining factors accompanying fertility decline considers the role of girls’ education in that decline. Even a few years of education has a significant impact on reducing a woman’s total fertility, though the precise mechanism for this relationship is not clear (Caldwell et al. 1992; Renne 2003; Frye 2012; Kravdal 2002, 2012; Behrman 2015; Baker et al. 2017). Education accompanies the trend to lowered fertility overall in Africa, but within this trend are tensions that play out within families about the double burden of a child in school; essentially, the child’s education must be paid for while at the same time the child is unable to contribute to farming. However consistent the connection in the literature between increased schooling and lowered fertility levels for young women in Africa, what is less clear is how existing poverty molds the decisions that parents make about sending their daughters or sons to school. Parents are also becoming aware, as is emerging elsewhere in the developing world, that schooling does not necessarily lead to either children being educated or to their obtaining jobs outside of farming (see Pritchett 2013).

The participant observation Bolten completed in primary and secondary schools between 2004 and 2012 for a different project revealed that young people did not see education as the sole, or even the best, strategy for economic success. Children were discouraged from showing their intelligence to poorly trained teachers, who would beat them for impudence if they contradicted an incorrect lesson (Bolten 2018). Secondary school

students mocked their poorly-paid teachers, spending at least as much effort on their own entrepreneurial enterprises as they did on studying (Bolten 2015). Even before the war, students' success was not guaranteed, as they needed to perform manual labor or pay teachers for the "blessings" that would result in a job (Bledsoe 1990, 1992). Within the experience that parents and children have with education is the paradox underlying the positive correlation between schooling and lowered fertility. The mere availability of education, for example, does not guarantee a positive future any more than does working the land (see Bocast 2019), making education a moral disposition more than it is an economic investment (Frye 2012). Parents are not naïve about the prospects of their educated children—even Ibrahim at the start of this article saw it as a risk—and so it is pertinent to investigate how sending children to school impacts and is impacted by agricultural productivity, which is itself dependent on available child and teenage labor.

Residents see their supposedly educated teenagers return to the farms without jobs, which confirms the ever-present fear that a child "lost" from the farm to schooling will return empty-handed, no matter their credentials or how hard they work in the city. As Mohamed articulated, having seven sons demand land means that he must provide for them, even if it means planting on land that is "weak." At Ibrahim's encouragement in 2016, he sent three uneducated sons to the capital city of Freetown to work in the urban informal economy, as Ibrahim convinced him that "one of them may succeed." Ibrahim did not see Mohamed's plight as a problem, rather he saw surviving sons as a bonus, an opportunity to be utilized in order to distribute the family's risk between the farm and the city. As Ibrahim reasoned, "if nothing is good right now—the farming is not good, there are no jobs—then why worry about having too many children? You will have even less from the farm and the city if you have only a few children survive." The problem, as Ibrahim articulates here, is not one of too many children, it is rather the failure of education to provide for all the children that one has. Instead of being assets for economic security simply through their high numbers, children instead become a way to mitigate the food insecurity that derives from the perpetual uncertainty of daily life.

In rural Sierra Leone, conversations about extreme indebtedness, food insecurity, and perpetual poverty revolve explicitly around the costs and consequences of education, that it complicates, rather than simply enables, a family's ability to rise out of poverty. The role of family size is an express consideration in these disagreements, as the conversation at the start of the article illustrates. Opposing viewpoints and uncertainty around this relationship are rife in village life, even within households. In one household a woman argued, "Large families are not good because you cannot care for them all," while her husband countered, "In Africa, it is better to have a big family because of our work." Neither parent articulated how many children comprised a "large" family, which resonates with the perpetual uncertainty of living in a landscape where farming fails to provide, even with family labor, and the transition to a capitalist economy, which theoretically should push smaller families, appears to offer nothing as well.

“We never counted children and we never measured rice”

When we spoke to people over the age of forty in 2018 and 2019, allusions to an earlier period of bounty, always described as “before the war,” emerged in the majority of interviews. Residents expressed that although life became a little harder in the late 1980s than previously because of economic austerity measures, true subsistence farming ended with the civil war that engulfed the country between 1991 and 2002 and became unrecoverable in the post-war period. Trends in education and urbanization that arrived in the post-war period correlated with declining soil fertility, from which the farmers and the land have never recovered. People noted that they began losing arable land to elephant grass and first encountered commercial white rice before the war. Even though large-scale agriculture stopped for a decade during the fighting, these trends intensified after the war. Our interview respondents linked the shift to a cash-based economy, which amplified the problem of feeding and educating their children. The majority of them noted that questions about family size arose in tandem with the commodification of rice, where lack of cash flow and poor yields made it necessary to measure and ration cups per person per day, and thus to measure people themselves. While several people noted ecological challenges to farming arising, such as an increased presence of elephant grass, as one person put it, “Population number is the number one issue because the elephant grass is not eating! If the population of the elephant grass increases, then people can run away; if the human population increases, they just squeeze tighter into the space and cannot run!” In essence, what makes ecological change unbearable is the high numbers that must contend with it. Where “we never counted people” (which Bolten heard verbatim from nineteen respondents in 2018) resonates with a non-numeric fertility preference such as children being “God’s will” (Frye & Bachan 2017), “counting people” was a function of the need to ration rice, because there was never enough to go around. This does not mean, however, that it became practicable to enumerate desired fertility.

In the mid-twentieth century, Sierra Leone was called “the breadbasket of West Africa” for the abundance of rice it exported (Alie 1990). Exportation was still occurring until the early 1970s, when the long-standing trend of laborers leaving agriculture for diamond mining began to severely impact yields (Bolten 2009). In addition to reducing agricultural labor, the practices of alluvial mining along streambeds and in swamps permanently undermined soil horizons, forever precluding their use as agricultural land (Bolten 2008). Mining also disrupted the “long-term thinking” of agriculture, as some elders explained, because money can potentially be earned rapidly, as opposed to waiting months for a harvest. This also presented young men with more options for self-sufficiency, encouraging migration to the mines (see Guyer & Salami 2013). Young men who made their own money made their own decisions, including paying their own school fees (see Maconachie & Hilson 2016) rather than hoping their parents could send them to school. These early instances of industrial diversification and education were the first signs

that children were no longer automatically expected to provide labor for family farms. However, even in pre-war families where a son chose mining—and there were four such families in the project area in 2019—none experienced a notable labor shortage. One man, whom we call Musa, explained his decision to migrate in the late 1970s: “My brothers were plenty. My father did not miss me when I told him I was going to the mining area, and he was glad when I started sending a little money back. I left because my youngest brother was very bright! I wanted to make sure that there was money for him to go to school.” In the 1960s and 1970s, the mobility of one or a few children did not significantly impact labor availability, and thus the yield of farms. Indeed, the school year itself was structured so that children could be home for the critical times of planting and harvesting.

Musa framed his decision to migrate around the schooling of his younger brother. His family was, as he explained, “wealthy farmers”; however, he emphasized that his father had no interest in education, because the farm provided everything the family needed. “If he wanted to, he could have sold a little rice, and the money would have been there for fees. But he was not motivated, so I took this decision for my brother.” Another trend that emerged in our interviews was that before the war, if a family had sufficient rice surplus they might send a child to school, but never more than two children, and this was a minority of families. Most children were sent to the farm, and a family’s success was based largely on their ability to command their children’s labor from an early age. Our interviewees who came from poor families described poverty stemming from having too few children. Of the sixty women surveyed in 2019, sixteen described their upbringing as “poor.” Universally, they noted that they could only eat one or two rice meals per day (rather than the three per day of wealthy families), and the average number of children alive who labored on the farm was fewer than four. Contradicting the widely-repeated phrase of not counting children before the war, one woman who was the elder of two siblings who survived infancy emphasized, “Our father counted us because we both counted!” In these interviews, though definitive answers to questions about desired fertility in mid-twentieth-century families could not be ascertained (see Lee 1980:226), the idea of “not counting children” resonates with non-numeric fertility preferences consonant with families who required farm labor and “safety in numbers” (Caldwell et al. 1992:214; van de Walle 1992).

Our interviewees indicated that in the mid-twentieth century, farming was enabled by family labor, and the more children a family had, the wealthier they were. This wealth through childbearing was also enabled by a very short time lag between when a child was born and when they became “useful,” around five or six years of age (see Shepler 2004). At this age, young boys are expected to scare pests such as birds and rats away from newly-sown fields, and girls are assigned to do light housework and look after younger siblings. This meant families could afford to lose some children’s labor to schooling (around the age of seven), and to mining, which usually did not occur until late adolescence, and they could potentially benefit from the

money and future financial security that such children could bring the family, even to promoting the fortunes of younger siblings before needing to assure parents a secure old age (see Dyer 2007; Jaffré & Suh 2016). In these examples, having many children was always a boon to a family's wealth and potential to diversify, whether through labor migration, participation in the cash economy, or schooling. It was lack of children that rendered a family poor, because it severely constrained their farming productivity, making it impossible to sell rice for cash (see Caldwell et al. 1992:214; Smith 2004:230). At this point in history, only large families could take advantage of both education and the opportunities of the cash economy.

War, the Destruction of Agriculture, and the Rebuilding of Families

The civil war that engulfed Sierra Leone between 1991 and 2002 ruptured family life and agriculture profoundly. All of the adults we interviewed divided their lives into “before the war” and “after the war,” with the war itself comprising a period of violence, hunger, and fear, with most families fleeing the villages to hide “in the bush,” comprised of their farms and the surrounding forests. The Tonkolili District itself was never a focus of fighting, but opportunistic rebels roamed the countryside, consuming domestic animals and seed, burning villages, and harassing, kidnapping, or killing the civilians they encountered. Many families lost children to hunger and disease during this time, but women also bore children in the bush. As was cogently noted by scholars of the Ebola epidemic that ravaged the country in 2014–15, there is never a crisis so prolonged or dire that women stop having children (Abramowitz 2019:3). In spite of the notion that agriculture might also be “on hold” during this time, the effects on land and families together marked a critical shift in people's ability to know that the land would provide enough for large families to enable both wealth and the education of a few children.

The revival of agriculture in the wake of the war was driven by two erroneous assumptions on the part of the international community about what had happened during the war. NGOs assumed that the land had “rested” through a decade of fighting-induced fallow, and thought that providing seed stock, tools, and roads to get harvests to market were all that was needed to restart nascent agriculture, economies, and social healing (Bolten 2009, 2012). However, in addition to the loss of seed, which was consumed by opportunistic rebels and families trying to avert starvation, the agricultural landscape itself was irrevocably damaged. Families who hid in the bush stripped the forest of fruit, made “small farms” to grow rice without regard to the age of the bush, and occasionally lost control of cooking fires. The result was a permanent fragmentation of their once dense forests and formerly “strong” farmbush. Most NGOs focused on getting children into school, arguing, as did the government, that “education is the key to the future.” Farmers throughout Sierra Leone emphasize that the fallow period should be at least ten years (Leach 1994; Ferme 2001). With the historical cycle of farm rotation destroyed by the scarring of the land during the war,

followed by a post-war population boom, the average fallow period in rural areas is now as low as three to four years (Kamara et al. 2016), which decimates crop yields and, in turn, hinders parents' ability to pay school fees.

The change for education was equally profound. The Truth and Reconciliation Commission listed universal access to primary school education as a binding recommendation (TRC 2003), compelling the government to build schools country-wide. The 2007 Gender Laws forbade child labor—even on family farms—and made school attendance compulsory (GoSL 2007; Bolten 2015). Although the law is unevenly enforced, parents in the villages noted that it “opened their eyes” to the government being serious about education. Said one, “The government told us that education is the key to the future, that it will turn our children into the leaders of tomorrow.” Citing shame at feeling that they themselves were “backward” for lacking education, it was important to parents to “raise up” their children, to enlighten them even if there was little possibility of financial reward in the future (see Frye 2012; Bocast 2019).

The compulsion to send children to school initiated widespread selling of crops, even though the government had ostensibly abolished school fees in 2004. The lack of fees for government-supported schools does not free parents from paying for related compulsory costs, such as school uniforms, shoes, supplies, meals, and—as is the case in our study area—contributions to teacher stipends, which are irregularly paid by the government. Said one parent, “They have a problem here with schools. They have no way to pay the teachers....The government supplies books and other things, but does not pay for teachers.” This makes even “free” education expensive, and parents must determine how many children to send to school, how much money they need to do so, and how much it will cost, in terms of labor, rice, and anticipated future deficits, to accomplish this. This is a complicated calculus for multiple reasons: a child in school is labor lost from the farm, and so, technically, costs twice as much as the sticker price of schooling indicates. In addition, any crops sold to pay fees rather than consumed by the family or saved for seed digs into already diminished returns, and so a family must decide how much debt—in terms of food and seed—they are willing to incur to educate a child. Schooling pits the short-term needs of feeding one's family against the medium-term needs of having seed for the next agricultural cycle, and the long-term potential returns of having an educated child. In this case, a child is not simply a number. Every child is enmeshed in the unresolved uncertainty of how their number will contribute to or cost their family, and thus potentially influence future childbearing and childrearing decisions.

This calculus is complicated further when seen in the light of the conversation between Mohamed and Ibrahim that opened this article. Do parents send multiple or all children to school, going into debt in the present, and hope that one may succeed enough to support them in the future? Bolten asked every interlocutor if they had a child who had succeeded through education, or if they knew of children from their village who had achieved a salaried position. Of the approximately one hundred people who responded, none of them had a child with a salary. Indeed, in one focus

group, a man we call Saidu started an argument with his eldest son Ousman, who was sitting next to him, about how much time, money, and effort he had “wasted” on educating his children. He explained, “I am so tired of paying school fees, and these kids are all dropouts. Except this one [he waves at Ousman], who has passed his exam but there is no money for university, so he just came back to farm.” He turned to Ousman, saying, “I spent more on you than the others to take your exam, and still you are here again!” Ousman patiently explained that he was doing what he could with “half-half” [small] jobs to help the family, but Saidu was not placated. “You help us by catching frogs for the cooking pot! You didn’t need to pass your exam to do that!” In fact, the family was so poor that they cooked six cups of rice per day for ten people and could not afford to purchase meat. As far as Saidu was concerned, education was not only a poor investment, it was a primary driver of poverty.

Other families hedged their bets, designating “one child for the school and one for the farm.” Eight sets of parents explained that they sent half of their children to school and used the other half “the traditional way” by teaching them farming, craftwork, and other skills, a decision that sheds light on the push for more children. There were various rationales driving which child or children would attend school. Half of the parents who engaged in this practice sent “only girls” to school, partly because they could better afford to lose their labor on the farm, and because, as two fathers intimated, “they are harder workers.” The other parents who selected certain children to attend school did so based on the sense of which were brighter and more likely to succeed. In this case, the children who were kept behind were aware of this, and despite the fact that there was no evidence their siblings would succeed, resented not being considered intelligent. For several young men who had been, as they said, “victims of this practice,” knowing their lack of favored status generated conflict with their parents and with the siblings who attended school. Said one, “I knew that my parents thought I was not the bright one, that I was the one who was supposed to sweat so my brother could work in an office. That I was working for him.” In essence, it was okay for one child to remain “backward” if another showed promise, and another child would need to come along even less intellectually promising to take his place on the farm. He said, “I begged my mother to have a little brother so that I could go to school.”

There were a dozen women interviewed who answered the question, “how many of your children did you send to school?” with a blunt, “none of them.” Deciding which child to educate was not an option for these women, all of whom were widowed young. Some of them were disabled, and most of them were also raising grandchildren. “For me to even have enough to eat, people must feel sorry for me,” explained one woman who had been widowed and disabled in a car accident. She and other similarly positioned women relied on the generosity of family and neighbors to have anything to cook in the evenings—rice was a luxury—thus rendering both family size and education moot questions. One of the women foreclosed the initial interview topic by stating, “Education could never enter my mind! I am totally helpless!

It doesn't matter how many children I have when I must rely on others to feed them. Schooling doesn't matter if I can't feed them myself; how can I even think about school fees?" In essence, with the depth of her poverty, one child or ten made no difference; they were all hungry, and none were attending school.

Unresolved Uncertainty Within Marriage: the Conundrum of "Desired Fertility"

The historical precedent linking large families with prosperity did not end with the war, even in the midst of agricultural decline; in fact, echoes linger today in the gendered nature of desired fertility. In many interviews that took place with couples, men wanted larger families for labor and women preferred smaller families because they were primarily responsible for their care. Women often explained that children were "punishment" and deepened poverty, noting that the farms simply did not produce enough to feed them. However, their husbands' insistence that children were always good for farm labor complicated this notion of children being "desired." Men often pressured their wives to have more children, threatening polygamy or the acquisition of "girlfriends" in order to increase the number of children—boys especially—"to make bigger farms." This had significant impacts on women's fertility, though we question the accuracy of calling women stating preferences for more children because of the perceived precarity of their marriages "desired fertility" (see Frye & Bachan 2017:200). In this case, *how* desires are rendered compelling between couples is as important a consideration in the calculus of completed family as *what* those desires are.

One of the more common reasons women noted for wanting to have more children was to maintain rights to their husband, as a possible fracture of their family would make feeding and educating their children even more difficult. By sacrificing a preference for small families because of concerns about hunger, and instead producing more children for their husbands, women could maintain their status as the only wife, and thus secure all of the household's resources for their own children. During an interview in 2017, after four children approached their mother Kadiatu seeking permission to play outside the village, she said, "These are my four children. I did not want to produce any more brothers or sisters for them because it would punish them, so my husband has taken another wife to make more children with." Opting to maintain her preference for a small family, Kadiatu generated further precarity and uncertainty in her ability to take care of those children, as her husband was now spreading his resources among many children, choosing those he would support at any time based on his relationship with their mothers (see Edin & Nelson 2013). Many of the women we engaged with were in polygamous relationships or lived under the threat of a polygamous relationship. Some women had converted to Christianity, which forbids polygamy, as a solution, but their husbands continued to practice Islam to retain the option of having more wives. In this case, curtailment for a

woman may be the result of a marital argument over desired fertility that led to a polygamous marriage.

Women also stopped husbands from roaming outside of marriage by producing more children. Several women stated, "To keep your husband at home for nightwork [sex], his work with you must produce for him in the end...that is what keeps him with you and not another." A woman thus must produce children to maintain the sexual attention of her husband, or risk his distributing it elsewhere (see Caldwell et al. 1992). Several women noted that having more children is a primary means to claim special treatment from their husband, especially in polygamous marriages, which also helped them support their existing children. One interlocutor noted, "Once you become pregnant, your husband is more likely to bring you things or to do as you ask, as he knows you are carrying his child." A pregnant wife's request for school fees for a child, for example, may be more readily met than the petition of a non-pregnant wife. Finally, having more children with one's husband than he does with his other wives "makes you hold more power with him but also over the other wives....You become the number two in the household even if you are not the first wife." In essence, even in families living in rampant poverty, precious advantages in resource allocation accrue to women who agree to have "one more" child, even if it invariably adds more pressure to an already desultory situation of feeding and educating.

Diverging from their preference for a small family in order to facilitate other preferences such as the attention of their husbands or greater rights within the home, the strategies invoked by these women substantiated children as a means of attention, influence over their husbands, and power over other wives, while they were also simultaneously and consistently described to be a source of poverty and punishment. This juxtaposition, founded in and undergirded by gender inequality, exemplifies how the uncertainty of optimal family size in contemporary rural Sierra Leone remains unresolved. These inequalities work against the fertility transition, where decreased mortality rates are expected to eventually yield lower fertility rates (Johnson-Hanks 2007; Smith & Johnson-Hanks 2015), because predominantly male preferences for larger family size often ultimately win out. Because unemployment is so high and so many school migrants return to the villages empty-handed, as we will describe in the next section, the preference for larger families among men is likely to remain steadfast. In speaking with a group of male agricultural laborers taking a break from their toil in the fields, one teenager said, "Why would I take on education or go to the city? All the boys older than me who have gone from my village either live in a shack on the roadside or come back here defeated, and few have wives or children yet. I should better stay here and have a big family to survive and make a good life, even though the land is tough." Such a perception from the younger generation of males indicates that a shift aligning the gender-divided preferences for smaller versus larger family size is not likely to transpire soon.

Schooling as a Risk for Higher Fertility

Most of the parents who hedged their bets by schooling only some of their children did so because of the “spillover” influence of education from the experiences of their friends and neighbors (Kravdal 2002, 2012). Rather than that “spillover” being the positive downward pressure of schooling on completed fertility numbers, it took the form of questioning whether children should be sent to school at all, citing the lack of success in the villages and the costs incurred in these failed investments. People who still hoped their children might succeed held an idea of an innate dignity emanating from schooling—and they often invested heavily in those children—but this optimism was not matched by those whose children had either completed or dropped out of school. For the latter parents, financial considerations took over, and, invariably, education indebted the family further, rather than raising them out of poverty. Another complication was that the mobility of their children for schooling and work produced unplanned grandchildren, as they could no longer be supervised or given moral guidance in their absence from the home.

Agriculture has remained the mainstay of the Sierra Leonean economy in the post-war period, providing about 75 percent of all jobs (UNDP 2020). With a rapidly growing youth population, the land available to provide self-sustaining employment is decreasing, which makes the proposition of sending young people to the city appear more favorable. However, about 70 percent of urban dwellers aged 15 to 35 are underemployed or unemployed, with about 800,000 actively looking for jobs (UNDP 2020). Educating to reduce “backwardness,” as parents explained their desire for their children, has merit, but in a highly saturated labor market such as Sierra Leone, parents are forced to consider whether investing in education at the risk of their household going hungry for part of the year is worthwhile. We often asked our interlocutors what jobs they wanted for their children. More often than not they articulated that did not want their children to become farmers, but there was otherwise no clear preference for any occupation; in many cases, there was little knowledge about what an educated person could do. A common response was, “We want our kids to become educated so that they can get a job in an office and support themselves and their family.” As the promises of education had never been fulfilled locally, it is not surprising that parents could not articulate concrete goals for schooling.

Margaret Frye found among children she interviewed in Malawi that education was vital to their identities even as the possibility that they would even enter university was remote (2012). Among the very few parents in our study villages whose children had finished secondary school, they knew that university tuition was out of reach without incurring a likely unpayable debt from a loan shark. They were also aware of *sababu*, the need to have inside connections to secure jobs with even a mediocre wage (see Millar 2016). For people who have successfully completed higher education, getting a job is still an insurmountable task, because most of these influential networks are either

urban, or require very close relationships with the Paramount Chief. Explained one parent, “Even if you have a university education, unless you can pay somebody or your family is powerful, you cannot get a job... you must be connected, this is the most important thing.” Even with stellar qualifications, candidates without the right connections were rarely hired (Bolten 2020). Children of poor farmers had neither connections nor qualifications.

However, the downward pressure on education and the evidence of lack of success among the schooled children in the rural areas was countered by a self-consciousness among the villagers about their place in the nation as “backward” farmers. Conversations that Bolten had with people in the nearby urban center of Makeni in 2016 revealed that urban dwellers believed rural people were “too lazy” to farm, and too “backward” to utilize technology for agriculture. Instead “the youth and not the rice” flowed from the farms to the city. In 2018 and 2019, village residents explained that they felt compelled to send their children to school, in spite of the hunger it incurred, because they did not want their children to be “backward” as they were. They saw education as the only way for their children to “progress,” and they had to pay for this, no matter how many children, whether they went in debt to do so, or how much labor they lost on the farms. The migration of children from the rural to urban areas was both pushed and pulled by education; the felt need to participate negatively affected food security everywhere, and further complicated a possible numeric calculus of desired fertility.

These problems were especially thorny for parents who had pinned their hopes for education on their daughters, and who often ended up supporting grandchildren. Though there was no clear preference articulated whether boys or girls were better suited for school, the majority of parents expressed that the decision to send a girl to secondary school in town required “extra” investment. It was not enough to pay for her physical needs. Said one parent, “When I sent my daughter, though she is very bright and focused, I knew that I would have to give her some extra encouragement, money for clothes and nice things, otherwise a man will give these things to her.” The extra expense of supporting girls in secondary school was linked to a national issue of female students being impregnated by teachers or older students. The situation is so dire that the First Lady started a campaign in 2018 called “Hands Off Our Girls!” (Kanu 2018). However, for parents who invest in their daughters’ schooling, the issue is a 2015 law that bans “visibly pregnant” girls from school (Starecheski 2015). Though challenged legally by human rights organizations, the law expels pregnant students without exception. Among our interviewees, six parents had had pregnant daughters expelled. Said one mother, “We invested all of this money, these harvests, into this girl, and she was doing very well! She was about to take her exams, and then she was sent home! Without any recourse to us because one of the boys tempted her! She came home and now we are feeding our grandchild.” In a sad twist of irony, investing in a girl not only failed to produce rewards, it added another mouth to feed. This comment took place in a focus group with six other women, and three others mentioned that they are also looking after grandchildren, though not

necessarily children of failed schooling. Two of them were taking care of children their sons had begotten through their “roaming” around the countryside, looking for work, because the proceeds from family farms were insufficient to feed them, let alone allow them to think about their own futures.

“Roaming” sons were not aimlessly floating. Male youth were often in “labor gangs” of four to six men with limited or no schooling, whose own families had no land to give them. As one father articulated, “When I could not feed my sons, when I could not send them to school, and I could not give them their own land because it is tired, I had to tell them to go. One of them went to the outcast area of Freetown, and I don’t know where he is. The other two did not like town—too expensive! So they found friends and got on the road around the chiefdom, a labor gang looking for work from people who have no one to farm.” Often these youth spent a week or so in a village, working for Le 5,000 to Le10,000 a day (fifty cents to a dollar) for farmers who had some money and needed labor, before moving on to another village. Babies materialized from these travels and were left with the youth’s parents, the outcome of the young mothers’ families also lacking resources. Said one grandmother, “My son brought the baby here because the girl was desperate. She and her parents could not feed the child, but someone must do it.” In both cases, of girls who left for secondary school and boys who joined labor gangs, rather than reaping rewards from their investment or distributing risk between children, parents often failed doubly in their calculus, adding grandchildren to their households and further skewing any notion of what, if any, an ideal family size looks like.

Conclusions

Considering that both agriculture and education are failing to produce a road out of poverty, it should be clear that a non-numeric answer for desired fertility is an understandable outcome. Children provide the labor that coaxes whatever productivity is left from the land; they are the victims of hunger when the land fails to produce, and they are a drain on that productivity when they attend school. Children are the axis of arguments over agriculture, labor, and care between parents, and they are the leverage parents have against each other in fragile marriages. They are desired, but every desired child comes with the knowledge that their contribution will likely be devoured by their needs, and potentially also the needs of the grandchildren they produce. The experiences of these families offer important counters to both the “wealth in people” model of African fertility (see Miers & Kopytoff 1977), and the “wealth in knowledge” model, where it is not the size of your family, but their skills that matter (Guyer & Belinga 1995).

Scholars of Nigeria have long contended that West Africa confounds fertility trends precisely because the wealth in people that is attributed to strong, large kinships networks is in direct competition with the economic hardship of raising children well (Caldwell et al. 1992; Renne 2003; Smith 2004). The unresolved uncertainty of family size that we discuss here is slightly different; in the agriculture-education nexus that dominates the

concerns of our interlocutors, it is not the short-term cost of training children that is at issue. In essence, there is no sense that long-term rewards are imminent from adding children. Rather, the horizons are always mismatched in rural Sierra Leone. A child may be beneficial to a mother while in the womb, and a cost thereafter. A child may produce through work on the farm, or consume by going to school. If they fail in school, they have the right to demand land from their parents, even land that cannot produce. A child is always a question, rather than an answer.

That desired fertility is not static but rather “unfolds” with respect to a woman’s fortunes (Bledsoe et al. 1998; Jafré & Suh 2016; Johnson-Hanks 2005, 2007, 2015) must also be viewed in the light that “desire” is not necessarily just an unfolding, but also potentially a negotiation between parents, as curtailment also may be. The threat of a girlfriend entering a marriage may prompt one more child, or a teenage daughter may bring home a grandchild from town; either of these events can prompt curtailment. The only consensus we found is that there is no “right” number of children to counter agricultural failure and contend with educational risk; indeed, there is no agreement on a *range* that might encompass the “right” number of children. Parents in our focus groups just speculated, with one father laughing, “two or nine? There is really no way of knowing.” Another countered, “maybe four, then?” and the discussion continued.

Rural Sierra Leonean parents have diverging visions for their own future security; they employ gendered strategies to distribute risk and reward, send children on different paths, and speculate on the outcomes. The fact that no family in our study area felt secure, felt they had a reasonable vision of their own future, or had an idea of what would become of their children reveals that family planning is a central paradox of life, one whose uncertainties are unresolvable. There are no better or worse options in terms of family size, education, or economic activities. The rationales that we recorded with respect to childrearing, farming in a desultory landscape and schooling during an economic crisis, either had failed or were in the process of failing. Indeed, the possibility that children would raise a family’s fortunes seems dim, no matter how families plan what to do with those children, much less how many children are required to ensure that the whole family eats. It leaves parents in a position of paradox that no amount of knowledge appears able to dispel, as no one is succeeding.

Acknowledgments

Catherine Bolten would first like to thank Papanie Bai-Sesay, Alpha Conteh, Ibrahim Kamara, and Abu Koroma for their assistance with village introductions, focus groups, and translating interviews. Special thanks go to Andrew Halloran and Tina Cloutier, the founders of the Tonkolili Chimpanzee Project, where the research for this article was based, and to Martin Bamin. The Kellogg Institute, Kroc Institute, and Institute for Scholarship in the Liberal Arts at the University of Notre Dame all provided funding for travel, and Maria Ventura provided research assistance with the literature review.

Richard Marcantonio would like to thank the Conservational Society of Sierra Leone for their partnership and continued support, without which this work would not be possible. A special thanks to Papanie Bai Sesay and Martin Bamin for their assistance. Funding was provided by the Kellogg Institute for International Studies, GLOBES Program for Environment and Society, and the Kroc Institute for International Peace Studies, all at the University of Notre Dame.

References

- Abramowitz, Sharon. 2019. "Ebola's Assault on Women, Children, and Family Reproduction: An Introduction to the Issues." In *Pregnant in the Time of Ebola: Women and Their Children in the 2013–2015 West African Epidemic*, edited by David A. Schwartz, Julienne Ngoundoung Anoko, and Sharon Abramowitz, 3–9. Cham, Switzerland: Springer.
- Alie, Joe A.D. 1990. *A New History of Sierra Leone*. London: MacMillan Africa.
- Baker, David P., William C. Smith, Ismael G. Munoz, Haram Jeon, Tian Fu, Juan Leon, Daniel Salinas, and Renata Horvatek. 2017. "The Population Education Transition Curve: Education Gradients across Population Exposure to New Health Risks." *Demography* 54: 1873–95.
- Behrman, Julia Andrea. 2015. "Does Schooling Affect Women's Desired Fertility? Evidence from Malawi, Uganda, and Ethiopia." *Demography* 52: 787–809.
- Bledsoe, Caroline. 1990. "'No Success Without Struggle': Social Mobility and Hardship for Foster Children in Sierra Leone." *Man, New Series* 25 (1): 70–88.
- . 1992. "The Cultural Transformation of Western Education in Sierra Leone." *Africa: Journal of the International African Institute* 62 (2): 182–202.
- Bledsoe, Caroline, Fatoumatta Banja, and Allan G. Hill. 1998. "Reproductive Mishaps and Western Contraception: An African Challenge to Fertility Theory." *Population and Development Review* 24 (1): 15–57.
- Bocast, Brooke. 2019. "Toward a Bright Future: Politics of Potential in a Ugandan Village." *Political and Legal Anthropology Review* 42 (1): 37–52.
- Bolten, Catherine E. 2008. *The Place is So Backward: Durable Morality and Creative Development in Sierra Leone*. Ann Arbor: ProQuest.
- . 2009. "The Agricultural Impasse: Creating 'Normal' Post-War Development in Sierra Leone." *The Journal of Political Ecology* 16: 70–86.
- . 2012. "The only way to produce food is to cooperate and reconcile? A case study of failures of cooperative agriculture in post-war Sierra Leone." In *Challenging Post-Conflict Environments: Sustainable Agriculture*, edited by A. Ozerdem, and R. Roberts, 237–48. London: Ashgate.
- . 2015. "A Great Scholar is an Overeducated Person: Education and Practices of Uncertainty in Sierra Leone." *Journal of Anthropological Research* 71 (1): 23–47.
- . 2018. "Productive Work and Subjected Labor: Children's Pursuits and Child Rights in Northern Sierra Leone." *Journal of Human Rights* 17 (2): 199–214.
- . 2020. *Serious Youth in Sierra Leone: An Ethnography of Performance and Global Connection*. New York: Oxford University Press.
- Bongaarts, John, and Jon Casterline. 2012. "Fertility Transition: Is Sub-Saharan Africa Different?" *Population and Development Review* 38, Supplement: 153–68.

- Caldwell, John C., I. O. Orubuloye, and Pat Caldwell. 1992. "Fertility Decline in Africa: A New Type of Transition?" *Population and Development Review* 18 (2): 211–42.
- Coast, Ernestina, Natalie Mondain, and Clementine Rossier. 2009. "Qualitative research in demography: quality, presentation and assessment." XXVI IUSSP International Population Conference. September 27 to October 2, 2009. Marrakech, Morocco.
- Dyer, Silke J. 2007. "The Value of Children in African Countries—Insights from Studies on Infertility." *Journal of Psychosomatic Obstetrics and Gynecology* 28 (2): 69–77.
- Edin, Kathryn, and Timothy J. Nelson. 2013. *Doin' the Best I Can: Fatherhood in the Inner City*. Berkeley: University of California Press.
- Ferre, Mariane. 2001. *The Underneath of Things: Violence, History, and the Everyday in Sierra Leone*. Berkeley: University of California Press.
- Frye, Margaret. 2012. "Bright Futures in Malawi's New Dawn: Educational Aspirations as Assertions of Identity." *American Journal of Sociology* 117 (6): 1565–624.
- Frye, Margaret, and Lauren Bachan. 2017. "The Demography of Words: The Global Decline in Non-Numeric Fertility Preferences, 1993–2011." *Population Studies* 71 (2): 187–209.
- GoSL (Government of Sierra Leone). 2007. *Compendium of the Gender Laws in Sierra Leone*. Freetown: Ministry of Social Welfare.
- Guyer, Jane I., and Samuel N. Eno Belinga. 1995. "Wealth in People as Wealth in Knowledge: Accumulation and Composition in Equatorial Africa." *Journal of African History* 36: 91–120.
- Guyer, Jane I., and Kabiru K. Salami. 2013. "Life Courses of Indebtedness in Rural Nigeria." In *Transitions and Transformations: Cultural Perspectives on Aging and the Life Course*, edited by Caitrin and Jason Danely Lynch, 206–17. New York: Berghahn.
- Jaffré, Yannick, and Siri Suh. 2016. "Where the Lay and the Technical Meet: Using an Anthropology of Interfaces to Explain Persistent Reproductive Health Disparities in West Africa." *Social Science and Medicine* 156: 175–83.
- Johnson-Hanks, Jennifer. 2005. "When the Future Decides: Uncertainty and Intentional Action in Contemporary Cameroon." *Current Anthropology* 46 (3): 363–85.
- . 2007. "Natural Intentions: Fertility Decline in the African Demographic and Health Surveys." *American Journal of Sociology* 112 (4): 1008–43.
- . 2015. "Populations are Composed One Event at a Time," In *Population and the Human Sciences: Concepts, Methods, Evidence*, edited by Philip Kreager, Bruce Winney, Stanley Ulijaszek, and Cristian Capelli, 238–56. Oxford: Oxford University Press.
- Kamara, Ali, Osman Sidie Vonu, John Lansana, and Foday Saidu Sesay. 2016. "Extent of Reduction of Fallow Period and Its Impact on Upland Rice Production in the Nongowa Chiefdom of Kenema District in Eastern Sierra Leone." *Agricultural Sciences* 7: 805–12.
- Kanu, Kabs. 2018. "Sierra Leone's First Lady Fatima Bio Hosts African First Ladies in 'Hands Off Our Girls!' Campaign." *Cocorioko* <https://cocorioko.net/sierra-leones-first-lady-fatima-bio-hosts-african-first-ladies-in-hands-off-our-girls-campaign/> December 17, 2018; last accessed October 15, 2019.
- Kraval, Oysten. 2002. "Education and Fertility in Sub-Saharan Africa: Individual and Community Effects." *Demography* 39 (2): 233–50.
- . 2012. "Further Evidence of Community Education Effects on Fertility in Sub-Saharan Africa." *Demographic Research* 27 (22): 645–80.
- Leach, Melissa. 1994. *Rainforest Relations: Gender and Resource Use by the Mende of Gola, Sierra Leone*. Washington DC: Smithsonian Press.

- Lee, R. D. 1980. "Aiming at a Moving Target: Period Fertility and Changing Reproductive Goals." *Population Studies* 34 (2): 205–26.
- Maconachie, Roy, and Gavin Hilson. 2016. "Re-Thinking the Child Labor 'Problem' in Rural sub-Saharan Africa: The Case of Sierra Leone's Half Shovels." *World Development* 78, 136–47.
- Miers, Suzanne, and Igor Kopytoff. 1977. "Introduction." In *Slavery in Africa: Historical and Anthropological Perspectives*, edited by Suzanne Miers and Igor Kopytoff, 3–84. Madison: University of Wisconsin Press.
- Millar, Gearoid. 2016. "Local Experiences of Liberal Peace: Marketization and emergent conflict dynamics in Sierra Leone." *Journal of Peace Research*. 53 (4): 569–81.
- Moultrie, Tom A., Takudswa S. Sayi, and Ian M. Timæus. 2012. "Birth Intervals, Postponement, and Fertility Decline in Africa: A New Type of Transition?" *Population Studies* 66 (3): 241–58.
- Pritchett, Lant. 2013. *The Rise of Education: Schooling Ain't Learning*. Washington DC: Center for Global Development.
- Renne, Elisha. 2003. *Population and Progress in a Yoruba Town*. Ann Arbor: University of Michigan Press.
- Shepler, Susan. 2004. "The Social and Cultural Context of Child Soldiering in Sierra Leone." In *Techniques of Violence in Civil War*, 41. Oslo: PRIO.
- Smith, Daniel Jordan. 2004. "Contradictions in Nigeria's Fertility Transition: The Burdens and Benefits of Having People." *Population and Development Review* 30 (2): 221–38.
- Smith, Daniel Jordan, and Jennifer Johnson-Hanks. 2015. "Special Issue: Population and Development: Comparative Anthropological Perspectives." *Studies in Comparative International Development* 50:433–54.
- Staracheski, Laura. 2015. "'Visibly Pregnant' Girls are Banned From School in Sierra Leone." National Public Radio. <https://www.npr.org/sections/goatsandsoda/2015/04/06/397272538/visibly-pregnant-girls-are-banned-from-school-in-sierra-leone> April 6, 2015. Last Accessed October 10, 2019.
- Stevens, Lindsay M. 2015. "Planning parenthood: health care providers' perspectives on pregnancy intention, readiness, and family planning." *Social Science and Medicine* 139: 144–52.
- Timæus, Ian M., and Tom A. Moultrie. 2008. "On Postponement and Birth Intervals." *Population and Development Review* 34 (3): 483–510.
- . 2020. "Pathways to Low Fertility: 50 Years of Limitation, Curtailment, and Postponement of Childbearing." *Demography* 57 (2): 267–96.
- Trinitapoli, Jenny, and Sara Yeatman. 2018. "The Flexibility of Fertility Preferences in a Context of Uncertainty." *Population and Development Review* 44 (1): 87–116.
- Truth and Reconciliation Commission (TRC) of Sierra Leone. 2003. Recommendations of the Truth and Reconciliation Commission, Vol. 2, Ch. 3. <http://www.sierraleone-trc.org/index.php/view-the-final-report/download-table-of-contents>.
- UNDP. 2020. "About Sierra Leone." Geneva, Switzerland: United Nations Development Program. <https://www.sl.undp.org/content/sierraleone/en/home/countryinfo.html>.
- van de Walle, Etienne. 1992. "Fertility Transition, Conscious Choice, and Numeracy." *Demography* 29 (4):487–502.
- World Population Review. 2020. Sierra Leone Population. <https://worldpopulationreview.com/countries/sierra-leone-population/> last accessed June 29, 2020.